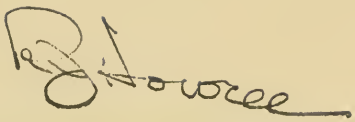


Compliments of

Gwilym M. Williams,

Inspector of Mines.

University of Scranton
The Library

Gift of
Roger J. Howell

For Reference

Not to be taken from this room

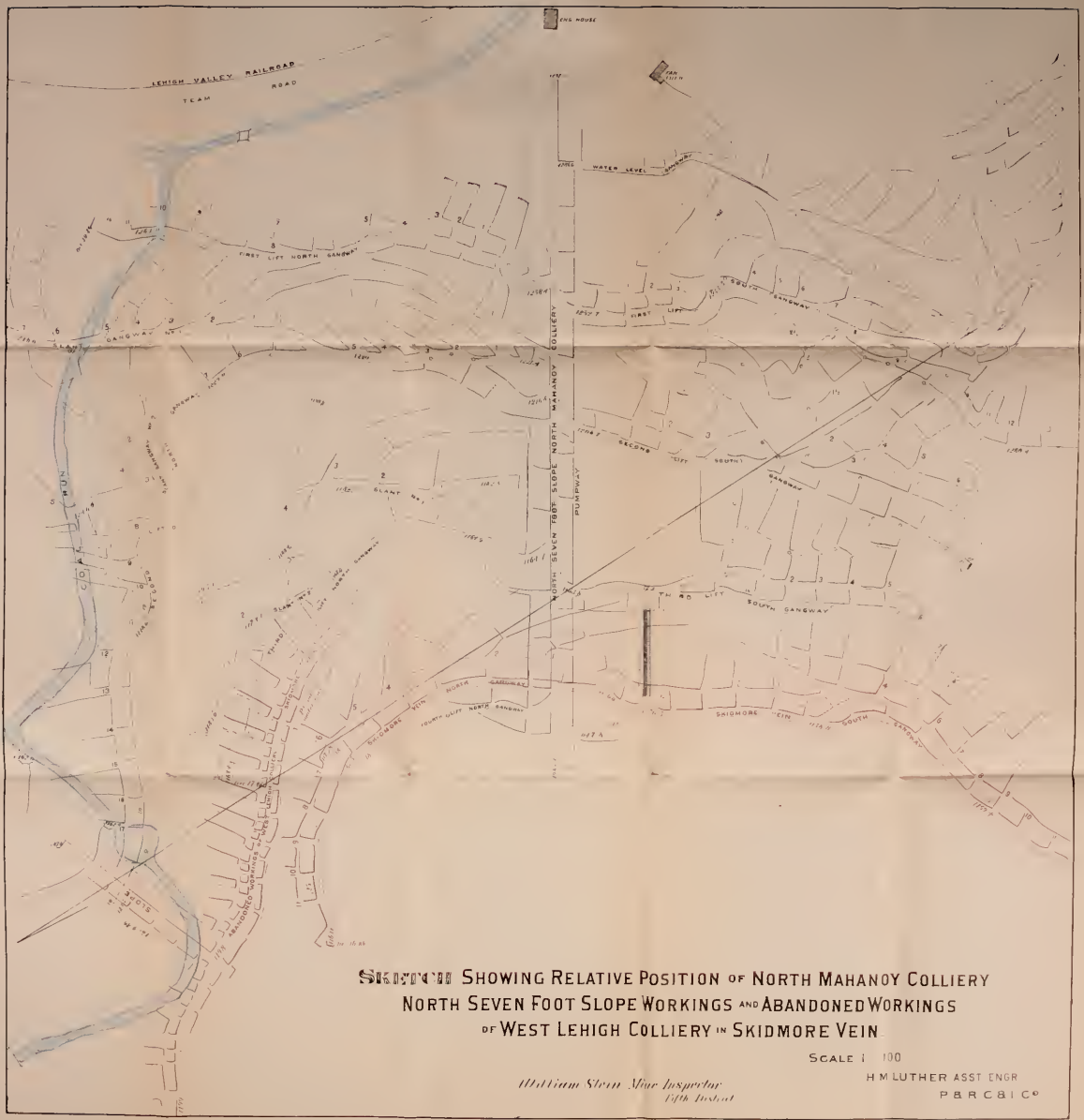
SECTION OF THE CONYNGHAM SHAFT WORKINGS

SHOWING THE SCENE OF THE EXPLOSION NOVEMBER 26TH 1886.

for G.M.WILLIAMS' Report

Ref'erences

A = Boards with danger Marks
B = Point where the gas was fired.
C = Shaft
D = Fire boss Station where the men were waiting.
X = Door with top and side open to admit a current of air through.



Sketch Showing Relative Position of North Mahanoy Colliery North Seven Foot Slope Workings and Abandoned Workings of West Lehigh Colliery in Skidmore Vein

Scale 1 100

H M Luther Asst Engr
P & R C & I Co

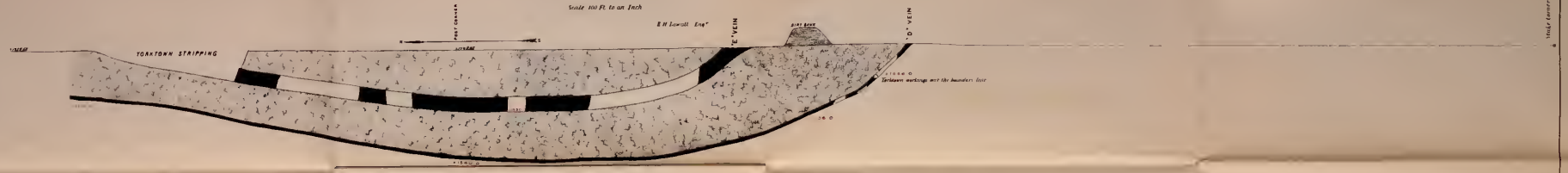
William Stein Mine Inspector
Fifth District

CROSS SECTION THROUGH BOUNDARY PILLAR

BETWEEN YORKTOWN & TRESCOW COLLIERIES

Scale 100 Ft. to an Inch

R H Lowell Engr



Note Original survey in red

Harvine Mines.

1 *Indicates the working place of Cor. Mc Guire and John Carden*
2 *" Pat Cavanaugh*
3 *" Pat. Murphy*
4 *" John Young and Pat. Murphy*
5 *" Pat. Mc Vitty*

John Shafts runs extra man

A. *Indicates point where Carden Murphy Young Harrison*
Mc Vitty & Shafts were found
B. *Mc Guire was found*
C. *Cavanaugh*

The Blue arrows indicate the Air currents
The Black " " Dip of the Seam
The Red lines indicate the road travelled by the last party
D. *Indicates the point where they turned back*
E. *" " " met Paul Bright & Wm Shafto who came*
The Green line indicates the extent of the Fall as shown by cracks on the surf
F. *Coloured Red indicates the heading driven to recover the bodies*
G. *Indicates point of safety*

Thos S. Horgan
Mining Engineer

Scale 100 Ft to 1 Inch

Patrick Blewitt
Inspector of Mines
Pt Inthracite District Pa

REPORTS

OF THE

INSPECTORS OF MINES

OF THE

ANTHRACITE COAL REGIONS OF PENNSYLVANIA,

FOR THE

YEAR 1886.

HARRISBURG:
EDWIN K. MEYERS, STATE PRINTER.
1887.

VIRTUE
LIBERTY AND
INDEPENDENCE

CONTENTS.

Report of Inspector of First Anthracite District, ... 5
Report of Inspector of Second Anthracite District, ... 45
Report of Inspector of Third Anthracite District, ... 71
Report of Inspector of Fourth Anthracite District, ... 110
Report of Inspector of Fifth Anthracite District, ... 147
Report of Inspector of Sixth Anthracite District, ... 166
Report of Inspector of Seventh Anthracite District, ... 194

ANTHRACITE MINE REPORTS.

ANTHRACITE

TABLE showing the number of mines, number of tons of coal mined and shipped, cite Coal Districts, for the year ending December 31, 1886. Compiled by this Bureau March, 1887.

DISTRICTS.	Number of mines as located.	Number of mines operated.	Average days worked by all mines operated.	Number of employés inside.	Number of employés outside.	Total persons employed.	Number of fatal accidents.	Number of non-fatal accidents.	Employés per fatal accident.	Employés per non-fatal accident.
First, ...	66	71	193	12,929	5,929	18,858	60	74	314	255
Second, ...	57	43	175	8,907	4,300	13,207	33	137	395	95
Third, ...	57	57	209	12,505	6,651	19,156	58	247	330	79
Fourth, ...	52	59	221	7,405	6,735	14,140	35	124	414	124
Fifth, ...	46	44	191	8,640	6,554	15,194	41	101	395	152
Sixth, ...	43	43	192	8,523	5,891	14,414	31	122	465	118
Seventh, . . .	43	39	176	5,021	3,054	8,075	21	43	384	187
Total, . . .	364	356	194	63,930	39,114	103,044	279	848	2,697	1,010

The production was about two million tons in excess of shipments. about 3,027,072, but much of this represents coal used for local con- 657,515 tons.

The number of working days was about the same as reported for

Of the total number of persons employed, 103,044, about 26,120 are 19,995 slate pickers; 10,288 drivers, runners, door-boys and helpers; neers and firemen, and 418 superintendents, book-keepers and clerks.

The condition of the mines is reported as improved, and the acci- There was a decrease of 33 in the number of fatal accidents, and 437 1885.

The total production of anthracite and bituminous coal for the year ployed in and about the mines was about 155,408, and the most of working days.

COAL STATISTICS.

number of employés, days employed, fatal and non-fatal accidents, &c., in the Anthra-
from the Reports of the Inspectors of Anthracite Coal Mines, made to the Bureau, in

Number of tons of coal mined.	Number of tons of coal shipped.	Number of tons increase.	Tons mined per fatal accident.	Tons mined per non-fatal accident.	Kegs of powder used.	Number of steam boilers.	Number of horses and mules.	Number of widows caused by accidents.	Number of orphans caused by accidents.
7,112,295	6,731,227	*146,558	118,538	96,112	224,141	715	2,294	36	127
4,233,456	4,117,235	98,316	128,286	30,901	145,086	647	1,451	16	38
6,935,315	6,681,812	·757,671	119,401	28,078	198,942	950	1,874	32	98
5,333,518	4,915,096	*202,025	152,386	43,012	98,525	1,224	1,640	17	41
4,972,502	4,570,146	459,702	121,280	49,233	124,368	899	1,343	19	64
3,714,519	3,463,266	*490,901	119,823	30,446	93,752	982	1,637	16	64
2,476,013	2,335,862	181,310	117,905	57,349	47,144	609	918	8	20
34,777,618	32,814,644	657,515	877,619	335,181	931,958	6,026	11,187	144	452

* Decrease.

The increased production over that reported to the Bureau in 1885, is
sumption and not reported to the Bureau, the total increase being but

1885, there being but a difference of two days.
miners proper; 739 foremen and fire-bosses; 16,047 miners' laborers;
13,724 company men; 1,790 blacksmiths and carpenters; 2,887 engi-

dents are accredited to carelessness on the part of the employés.
in the number of non-fatal accidents, from the number reported in

1886 was about 61,884,791 tons, and the total number of persons em-
these were employed less than two-thirds time out of a possible 307

First Anthracite Coal District.

Synopsis of the report of Inspector Patrick Blewitt for the year ending December 31, 1886. Compiled by the Bureau:

Number of mines in the district located,	66
Number of mines operated from which statistics were gathered,	71
Average working time, in days, for seventy-one mines,	193
Persons employed inside of mines,	12,929
Persons employed outside of mines,	5,929
Total number of persons employed,	18,858
Number of fatal accidents,	60
Number of non-fatal accidents, (serious,)	74
Persons employed per fatal accident,	314
Persons employed per non-fatal accident, (serious,)	255
Number of tons of coal mined,	7,112,295
Number of tons of coal shipped,	6,731,227
Number of tons, increased production over year 1885, (decrease,)	146,558
Number of tons of coal mined per fatal accident,	118,538
Number of tons of coal mined per non-fatal accident, (serious,)	96,112
Number of kegs of powder used in mines,	224,141
Number of steam boilers in use,	715
Number of horses and mules in service,	2,294
Number of widows,	36
Number of orphans,	127

There were 217 accidents, counting those not of a serious nature, against 194 for the year 1885. There was a decrease of 6 in the number of fatal accidents less than reported for 1885.

FIRST ANTHRACITE DISTRICT.

Office of the Inspector of Mines,
Scranton, Pa., *March 14, 1887.*

Hon. J. Simpson Africa, *Secretary of Internal Affairs:*

Sir: In compliance with section 7, article II, of an act of Assembly, approved June 30, 1885, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," I have the honor of herewith submitting my annual report as inspector of coal mines for the first anthracite district for the year ending December 31, A. D. 1886.

The collieries are in a very satisfactory condition as regards ventilation and safety. There were two very serious disasters in this district in 1886; the first at Fair Lawn Colliery, August 30, where seven men lost their lives by an explosion of firedamp; the other at Marvine, where eight men lost their lives by asphyxia, caused by a large fall which closed them in; an account of each will be found in this report.

It is very unpleasant for me to state that the parties working in the mines recklessly face death regardless of the safeguards which the Legislature has enacted for their protection.

By reference to the accompanying tables, it will be seen that a great many accidents could be avoided by using the precautions established by law, and living up to the mine regulations. It also shows the different classes of workmen and number of each, the amount of tons of coal mined and shipped at each colliery, with other statistics interesting to parties engaged in the mining and shipping of coal in this district.

The following is a summary of the most important statistics:

Amount of coal mined in 1886, ... tons,	7,112,295
Amount of coal shipped in 1886, ... tons,	6,731,227
Kegs of powder used in 1886, ...	224,141
Tons of coal produced per life lost, ...	118,538
Number of lives lost, ...	60
Number of widows, ...	36
Tons of coal produced for each widow, ...	197,564
Number of orphans, ...	127

Tons of coal produced for each orphan,	56,002
Number of serious accidents,	74
Tons of coal produced for each serious accident,	96,112
Number of slight accidents,	143
Tons of coal produced for each slight accident,	49,764
Total number of employés,	18,829
Tons of coal mined for each employé,	377
Number of persons working in mines,	12,929
Tons of coal mined for each,	550
Ratio of employés per life lost,	314
Ratio of employés per personal injury,	87

Respectfully submitted,

PATRICK BLEWITT,
Inspector of Mines.

Petition to Readjust the Boundary Line between Districts No. 1 and No. 2.

To the Board of Examiners appointed by the Court of Common Pleas of Luzerne county, Pa., at January term, A. D. 1886:

GENTLEMEN: The undersigned request the Board of Examiners to readjust the boundary line between districts No. 1 and No. 2, in order to equalize the territory and the quantity of coal produced, so as it may be more equitable to the labor of the inspectors of districts No. 1 and No. 2; therefore, we agree to the following line of division: Transfer all of Old Forge township and that portion of Lackawanna township, south-east of the Lackawanna river, in Lackawanna county, from district No. 1 to district No. 2. Then No. 1 district will include all the territory in the Lackawanna coal field from the north-east outcrop of the coal formation to the south-west line of Lackawanna township, on the north-west side of Lackawanna river, and the south-west boundary line of the city of Scranton on the south-east side of the Lackawanna river; district No. 2 will include all of its present territory, together with the above addition of Old Forge township and that portion of Lackawanna township lying south-east of the Lackawanna river.

We remain respectfully yours,

H. McDONALD,
Inspector Second District.
PATRICK BLEWITT,
Inspector First District.

Now, to wit, August 12, 1886, the undersigned Board of Examiners for Mine Inspectors, in pursuance of the authority vested in us by the eighth section of the act of June 30, 1885, have readjusted district No. 1 and No. 2, and created a new boundary line, which is, as set forth in the foregoing petition, signed by the inspectors, and the same is

now adopted and declared by us as the boundary line between said districts, subject to the approval of the Court.

CHARLES F. INGHAM,
E. L. BULLOCK,
MARTIN BRENNAN,
WILLIAM HUGHES,
GEORGE FREY.
Board of Examiners.

On September 6, 1886, the Court of Luzerne county approved of the action of the Board of Examiners.

On September 28, 1886, the Court of Lackawanna county approved of the action of the Board of Examiners.

Opinion by Judge Hand.

C. P. Lackawanna Co., No. 1, Jan. T., 1887. Equity.

Com. ex. rel. Blewitt v. William T. Smith.

Act 30 June, 1885, Section 5, Article IV, P. L., 226, does not prohibit the sinking of a shaft within two hundred feet of the breaker, where the breaker was erected before the passage of the act.

Where a breaker erected before the passage of the act, is within two hundred feet of the opening of the shaft, the act does not prohibit its re-erection in case of destruction by fire.

Bill in equity.

The facts are stated in the opinion of the Court.

Jessups & Hand, for plaintiff.

A. H. Dickson, for defendant.

Hand, P. J.—This case involves the construction of section 5, article IV., of the act of June 30, 1885, relating to the anthracite coal mines, providing for the health and safety of persons employed, and the protection and preservation of property. The questions come before us on bill filed and demurrer.to the bill.

The facts are, that plaintiff is inspector of mines for the first district; that defendant is the operator of an anthracite mine and colliery in the city of Scranton; that the mine has been operated for over twenty years by means of a slope, the mouth of which is close beside the breaker, within two hundred feet of the same; the slope extends to all the veins above the New County and Clark veins; the breaker has been in operation continuously for at least ten years, and was erected prior to the passage of the act of Assembly, 1885, which now governs the mode of conducting mines in the anthracite coal field.

The defendant is about to sink a shaft to all the veins of coal on his property, and locate the opening of the shaft within two hundred feet of his present breaker-building, and when completed intends to hoist the coal from all the veins and work the mine through such shaft, which is to take the place of said slope. It was conceded on the ar-

gument that the shaft was to be in place or stead of the slope, and located at or near the opening of the slope. The fifth and sixth paragraphs of the bill bear this construction, and are so understood. It is also stated, and is a fact, that in case said shaft is so located, and in case of the destruction of the breaker by fire, it would become necessary, in order to mine and prepare coal from said property, to rebuild said breaker in its present location, and defendant purposes and intends in that case so to do. The plaintiff avers that the proposed action of the defendant is contrary to the mine-ventilation act, and especially the fifth section of article IV of said act, approved 30 June, 1885, P. L., page 226.

The two questions raised by the bill are directly (1), whether the sinking of the proposed shaft within two hundred feet of the breaker is in contravention of the act of Assembly, and indirectly (2), whether in case of the burning of the breaker the rebuilding of the breaker would violate the provisions of the act.

It was conceded upon the argument that the fifth section of article IV controls in the construction. The portion of the section pertinent is as follows, viz: "From and after the passage of this act, no inflammable structure, other than a frame to sustain pulleys or sheaves, shall be erected over the entrance of any opening connecting the surface with the underground workings of any mine, and no "breaker" or other inflammable structure for the preparation or storage of coal, shall be erected nearer than two hundred (200) feet to any such opening. * * * *Provided*, That this section shall not apply to breakers that are now erected, or that are in course of erection."

It will hardly be doubted, under the proper rules of construction, that in the cases to which this section is applicable, it prevents the location and construction of a breaker and shaft, or slope, within two hundred feet of each other, no matter which is first erected. It would hardly be urged that in the case of new mines being opened, reached by no breaker, that the law could be avoided by first erecting the breaker and then sinking the shaft. This would make the law carry its own defeat within its own terms.

The question is, "Is this one of the cases to which the section is applicable?" At the outset, the section confines itself to erections "from and after the passage of this act."

In the case of an entire new mine and opening, the language of the section would prevent the erection of a breaker where an opening had been completed and no breaker begun, but this construction might be considered possibly a forced one, equal to the one supposed in the case of an erection of the breaker for the purpose of avoiding the letter of the statute. It is, however, not necessary for us to decide this, as it is not before us. It is evident that no attempt is made in the act to interfere with the locations of breakers and openings prior to the act.

Again, whatever cases might arise after the passage of the act, the proviso to section five makes a specific limitation to the application of the section. That limitation is that the section shall not apply to *breakers* that are now erected or that are in course of erection. The effect of this proviso is that, whatever construction we give to the preceding enactment or portion of the section, *that* construction shall not apply to the case of a breaker erected at the time of the enactment, or in course of erection. It is, therefore, clear that even if we enlarge by construction the wording of the section, so as to prevent the sinking of a shaft after the erection of a breaker, which is itself erected after the enactment, we cannot so enlarge it where the breaker was erected at the time the law was passed. The proviso positively excludes such construction.

"A proviso is something engrafted upon a preceding enactment, and is legitimately used for the purpose of taking special cases out of the general enactments and providing specially for them." A proviso speaks the last intention of the law-giver, and may render nugatory a prior part of an act.

"If a proviso in a statute be directly contrary to the purview of the statute, the proviso is good, and not the purview."—*Potter's Dwarris on Stat., 118 and notes.*

It would seem, therefore, that both under the letter and the spirit of the section, the defendant may sink his shaft without violating the law. But let us examine the intention of the Legislature further. In drafting the section and the proviso, they were made to relate to the erection of the breaker, and not to the sinking of the opening. The proviso, instead of saying the section shall not apply to openings now erected or sunk, or in course of sinking, prohibits the section from applying to breakers. We may not assume that this is an inadvertence, especially if we can find a legal reason for it. It seems to us such a reason exists. While the law itself was intended to guard the health and safety of persons, its title shows that it was also intended to protect and preserve property. Within proper rules of construction, it should receive liberal treatment. At the same time, it is apparent throughout the act that so far as possible it seeks to avoid the destruction of rights and values. It even permits danger and risk to remain, rather than strike down values and property once created and vested in the owner of the mines. A similar exception and proviso is inserted in relation to the location of boilers, in article V, section 2.

A breaker is defined to be "the structure containing the machinery used for the preparation of coal." It will be observed that the building of the breaker, with its machinery to be connected with the mine, determines to some extent the location of the shaft or opening. It matters not which was actually first located, the breaker once built is

built with reference to the opening. A breaker is a structure of great value; it cannot be safely removed without great loss. On the other hand, the opening is the means of access by the owner to his property; by property we mean the coal which is the subject-matter of the law. It is not uncommon for a person to own only the coal, with no surface save that to be made for his openings, his breakers, and for dumping-ground. If the breaker is once erected, and the owner is obliged to make his opening at least two hundred feet therefrom, by law, it might throw him entirely off from his own land, in which case he would own his property without access to it. It is clear that the Legislature would never intentionally enact such a law, and they have avoided it by this proviso. A lessee of coal is also an "owner" within the act (see article XIX, definition of owner). This reasoning, while it applies to the sinking of the shaft, and accounts for the wording of the proviso, applies with equal force to the rebuilding of the breaker when it is burned. It is the case of a breaker erected at the time of the enacting of the law, to which the section was never intended to apply. Valuable rights have been fixed, large amounts have been spent on the strength of the relative location of the breaker and the opening, and with this property the law expressly says it does not intend to interfere. This view of the act of Assembly gives reasonable force to the section in question, and at the same time protection in the line clearly intended by the Legislature. It is also apparent from the guarded language of the section and the proviso, that, as to all entirely new developments of coal tracts where no vested property-rights in breakers or openings relative thereto existed, the relative location of the two was to be changed. A radical change is inaugurated, but inaugurated so that no reasonable cause of complaint could exist, and no property annihilated by act of law.

In regard to a rebuilding of a breaker destroyed by fire, or of one worn out or decayed before the exhaustion of coal, the act is silent. It has not attempted to regulate these matters. It is not the question whether the Legislature has power to regulate them, but has it done so? On the contrary, has not the Legislature plainly shown a disposition not to interfere? No one will doubt the right of any person to rebuild his breaker when burned. He may enter into a contract in advance that the insurance company may rebuild instead of paying the loss. Any interference with this right by law must be by express authority. The courts cannot infuse into an act, even one so important as that it is intended to protect life, what is not in it by express words or necessary construction. This was decided in *Haddock* v. *Com.*, *103 Pa. St. R.*, *249*.

We apprehend that the proviso of section V of article 4, coupled with the opening words of the section, shows a clear intention not to interfere with any location of the breaker and the opening which existed at the

time of the passage of the act, so long as the same works or "colliery" were to be continued. The reason which would save or exclude the section from the case of a breaker then erected would apply to the whole colliery, as it is defined by the act, until the coal for which the breaker was erected was exhausted. Breakers decay and wear out; they, and the openings made in connection with them, are made with reference to the body of coal they are intended to reach so as to exhaust it. The openings are located, or intended to be, with the best skill and plan that can be used or devised. Unforeseen facts arise beneath the ground; the angle of the slope may be changed by the coal so as to run off the owner's land; it may extend so far as to leave a large body of coal, or whole veins, behind it. Shall not the operator be permitted to change his opening or rebuild his breaker on the same spot so as to effectuate his original intention? It is true he may sink his shaft inside the mine to the lower veins, but shall he be compelled to do this, or shall he be compelled to lose all the coal back of his slope because it cannot be mined without a loss? Possibly yes, if the law clearly and expressly says so much. But if it does not, or appears to clearly intimate a contrary intention, we hold that it is not contrary to the best rules of construction to leave the owner to the free enjoyment of his natural privileges until they have been clearly curbed or annihilated. Those principles are in accordance with the rules of construction applied to mine ventilation acts as seen in *Haddock* v. *Com.*, above cited, in *Com.* v. *Connell & Co.*, *2 Luz. Leg. Reg.*, *p. 1*, decided by Judge Harding; also with general rules of construction. "A power derogatory to private property must be construed strictly, and not enlarged by intendment." (*Dwarris Stat.* (*Potter*) *257; Vanhorn* v. *Dorrance*, *2 Dallas*, *316.*)

Our attention was called in the argument to an either apparently careless or designed omission of the case of a *shaft*, where it is provided "that this act shall not be construed to prohibit the erection * * * of a trestle for the transportion of cars from any *slope* to such breaker or structure." In the case before us we have held that the section entire did not contain in its purview the case of a breaker erected at the time of its passage. The act in such a case is as if this section was not in it. But we are of the opinion that a shaft is not excluded from the exception made in the case of a slope. Our reasons are as follows: The affirmative part of the section applies to "other inflammable structure for the *preparation* or *storage* of coal." A trestle is not for that purpose, especially in the case of a shaft; it is for the transportation of coal. In the case of a slope, the trestle may so far be a part of the breaker by reason of the schutes and screens running under it, (as in the case where its inclination is a continuation of the inclination of the slope until it reaches the breaker,) that it is difficult to tell where the trestle ends and the portion for "the preparation and

storage of coal begins." Hence such a case should be excluded to prevent a construction adverse to its usage. But this does not imply that the original affirmative clause included shafts. This is upon the basis that it was a designed omission. It would not, however, be a forced, but a natural, construction to say that no distinction was intended between a shaft and a slope, and the omission was a mere lack of specification where the intent could be inferred. There is no reason why a trestle not filled with screens and machinery for "the preparation of coal," or with bins for the storage of coal, should be inhibited and prevent a connection with a breaker or slope. A new trestle would communicate fire slowly, is easily thrown down, and the exception as to a slope is some indication that the trestle was not to be included, inasmuch as such a possible construction is prohibited.

It is true, as contended by the learned counsel for the plaintiff, who cites *Com.* v. *Fraim*, *16 Pa. St. R.*, *153*, and *Big Bk. Cent. Imp. Co.* v. *Com.*, *94 Pa. St.*, *450*, that statutes will be construed so as best to effectuate the intention of the makers, though the construction may seem contrary to the letter of the statute. But even this rule applies only where the intent is clear and the contradiction seeming. If we have read the statute in question right, it intends to guard the health and safety of persons employed in and about the coal mines, but it equally intends to preserve the equities of owners existing at the time of its passage. In this view we enter judgment on the demurrer in favor of the defendant, and dismiss the bill at the cost of the plaintiff.

COLLIERY IMPROVEMENTS DURING 1886.

Delaware, Lackawanna and Western Railroad Company.

This company reports but very few improvements for the year, except what were necessary for the purpose of keeping their coal property in a condition to supply the market with their quota of coal. They have opened but very little new territory.

Brisbin Shaft.

This shaft was sunk from G, or 14-foot, to Clark vein of coal, a distance of 153 feet. Total depth of shaft, 520 feet; size of shaft opening, 35×10 feet. They are opening up the mine so as to be ready to ship coal when the market needs it.

Manville Shaft.

This shaft has been sunk 170 feet from the Clark to No. 3 Dunmore vein. Total depth of shaft, 355 feet; size of shaft opening, 27×10 feet. This mine is operated by Delaware, Lackawanna and Western Railroad Company and Delaware and Hudson Canal Company alternate months.

Delaware and Hudson Canal Company.

This company does not report any improvements for the year, ex-

cept what were necessary for development of territory to supply their quota of coal to the market.

Pennsylvania Coal Company.

This company have sunk a new shaft in Dunmore borough on what is known as the Gilbert Dunning tract, called No. 1 shaft. Commenced sinking in rock on November 26, 1885, and finished on November 18, 1886. Shaft is 171¾ feet from surface to bottom of first Dunmore vein, 218 5/12 feet to bottom of second Dunmore vein, 272⅙ feet to bottom of lower Dunmore vein, and 289⅙ feet to bottom of sump. No coal has been shipped yet. They are opening up the mine and preparing to build a large breaker in connection with the shaft 600 feet east of it. No coal will be shipped until the latter end of year.

Spencer's Shaft.

Spencer Bros. have extended their underground slope 1,280 feet; angle of pitch, 3°; sectional area, 90 square feet.

Richmond Shaft.

This shaft has been sunk 60 feet to a lower vein; size of shaft, 12×24 feet. They are opening out the mines at present.

Pancoast Shaft.

The company sunk a new slope 550 feet long in mines on a pitch or angle of 6°; also had a new tunnel driven 128 feet long in rock from top to bottom split of 14-foot, or G, vein; sectional area of tunnel, 60 square feet.

Marshwood Colliery.

This is a new colliery, owned and operated by the Moosic Mountain Coal Company. It is located in Olyphant borough, and 3 miles southeast of Lackawanna river. It consists of one drift driven into crop of first Dunmore vein; slope sunk across the measures, cutting the second Dunmore vein, and to the bottom of the lower Dunmore vein. It is 292 feet long; angle of pitch, 19° 25″; sectional area, 8×12 feet=96 square feet. The breaker is not finished yet. It will have a capacity of 1,000 tons of coal per day. There are eight boilers in place, also one pair of hoisting engines and one breaker engine. The company have also built several houses for their employés. From present appearances, it is intended for a first-class colliery. John R. Davis, general manager; B. F. Fillmore, assistant; James R. Wilson, mine foreman. The company will be ready to ship coal as soon as the main outside track is finished to the colliery. They are sinking an air shaft 12×16 feet to cut all the veins of coal.

Capouse Shaft.

A new plane has been graded at an angle of 15° and 450 feet long.

Church Mine.

A new slope has been sunk from the surface to the coal.

Grassey Island Mines.

They have driven a new drift to open up the slope vein of coal.

Dolph Colliery.

There have been new lump coal schutes built on breaker.

Edgerton Mine.

Two air shafts have been sunk, one 35 feet deep, the other 41 feet deep; sectional area of each, 100 square feet.

Peckville Colliery.

This is a new colliery, located in Winton borough, on the south-east side of the Lackawanna river. Coal can be shipped by the Delaware, Lackawanna and Western railroad or the Delaware and Hudson Canal Company's railroad. It is owned and operated by the Peckville Coal Company. They have one drift driven 200 feet into the coal, and opening right and left of the main heading. There is another drift 600 feet south of breaker. A new breaker is being built which will have a capacity of 600 tons per day. They will be ready to ship coal in about three months. An air shaft is also being sunk.

Pierce Mines.

The slope from the surface has been sunk 700 feet in 1886. Sectional area, 100 square feet.

Erie Colliery.

On November 16, 1886, Erie breaker was destroyed by fire. It is now being rebuilt, and will be ready for the preparation of coal about March 1, 1887. Sunk one pumping shaft 225 feet deep; sectional area, 48 square feet. Two new shafts are being sunk, one to top vein and one to bottom vein. Size of shafts, 12×30 feet. A breaker is to be erected for the preparation of coal and is now ready for the superstructure.

Keystone Mine.

One self-acting plane, 450 feet long, sectional area, 96 square feet, has been built and in operation.

Brennan's Mines.

A new breaker has been erected; a drift has been opened and an air shaft has been sunk in 1886.

Belmont Mines.

A new drift has been driven for a distance of 300 feet, for the purpose of drainage. Sectional area, 42 square feet.

Simpson Mines.

Rebuilt breaker destroyed by fire in December, 1885. Erected a fan, 16 feet diameter, 5 feet face; sunk air shaft 108 feet deep. One set of three boilers put in place.

Forest City Colliery.

The Hillside Coal and Iron Company own and operate this colliery. A new wing was built to the breaker, almost doubling its capacity. A new slope has been sunk from the surface to the top vein, 1300 feet long; angle of pitch, 6 degrees; sectional area, 96 square feet. A slope has been sunk in the mines 500 feet long; angle of pitch, 6°; sectional area, 72 square feet. One plane has been graded; angle of pitch, 7°; and 400 feet long. A new shaft has been sunk 160 feet deep, to bottom of coal; size of shaft, 12×30 feet. This is called No. 2 shaft. Another shaft, called the Clifford shaft, is being sunk to the lower vein of coal. It was down 22 feet on December 31, 1886; size of shaft, 12×30 feet. A breaker is to be erected in connection with this shaft, to be located along the Jefferson branch of the New York, Lake Erie and Western railroad. When all these improvements are finished it will double the capacity of this colliery, which is located in Clifford township, Susquehanna county.

Fair Lawn Disaster.

PATRICK BLEWITT, ESQ., *Mine Inspector.*

DEAR SIR: I submit the following facts in regard to the explosion of fire damp, in Fair Lawn mine, August 30, 1886: Our quota of the allotment of coal for the month had been filled Wednesday, August 26. On Thursday, August 27, there came a fall of rock on the slope, when orders were given that there would be no more mining until the rock was cleared on the slope. Monday, August 30, six men came for work, going in and passing the station, where they should wait for word as to the safety of their going to their places of work. They disregarded the established rule and passed in to a point marked on tracing, where one of them ignited the gas that killed all but one. Names of the killed and survivor: Michael Pryle, miner, killed; John Kerrigan, miner, killed; Edward Gaughan, miner, killed; Edward Pierce, fire boss, killed; Hugh Connors, laborer, killed; Patrick Comers, laborer, died; John Navan, badly burned.

Yours,

J. H. HOSIE,
Superintendent Fair Lawn Colliery.

From my investigations and the testimony given before the coroner's jury, it was shown that a fall of rock came down on the main slope, on Thursday, 27th day of August. The company's men were

working at and clearing it away on Frida , Saturday, and Monday. When the explosion took place, Martin Gallagher, the mine foreman, and Patrick Malia, a laborer, were working at it, and preparing to close up an entrance that was destroyed by a fall, which caused a leakage of over 6,000 cubic feet of air. On Sunday, the 29th, the fan was stopped for repairs for about an hour and a half, in the forenoon, but as soon as the repairs were finished the fan was started again at its usual speed, and run regularly at that speed until the explosion took place, on Monday morning. On Monday morning, six miners and laborers got to the mouth of the slope about 7.30 o'clock, and waited there for some time, until Edward Pierce, the fire boss, was ready to go into the mines with them. They were going to their chambers to take up some bottom rock, so as to have their working places in good condition for work on September the 1st, when mining was to begin again. In going down the slope two of the party went into the Clark vein for something they needed, and the other five went to the bottom of the slope in No. 3 vein, and waited there until the other two men came to them. Then the fire boss and party went in together, all carrying naked lights. They went but a short distance, when some one of the party ignited the gas, causing an explosion, killing Edward Pierce, fire boss; Michael Pryle, miner; John Kerrigan, miner; Edward Gaughan, miner, and Hugh Conners, laborer. Patrick Comers and John Navan were seriously injured. Comers died in the hospital two weeks after the explosion, and John Navan recovered.

In my opinion, the cause of the explosion was the stoppage of the fan for repairs on Sunday morning, which allowed the gas to accumulate in No. 3 vein. Although the fan was run at its usual speed after the repairs were finished, it could not circulate the amount of air necessary to remove the gas in No. 3 vein, as there was a loss of over 6,000 cubic feet of pure air, which leaked through at the fall, on the main slope, into the Clark vein, which ought to go into No. 3 vein.

Hereto attached, you will find the verdict of the coroner's jury, tracing showing location of fall in slope, station where men wait for orders in morning before going to work, and where men were found after the explosion.

From a careful examination of the mine and from the evidence before us, we deduce the following verdict: The deceased persons herein named came to their deaths on Monday, the 30th day of August, A. D., 1886, from an explosion of gas (fire damp) at about the middle of the third or lower vein of the Fair Lawn Coal Company's mine. It was an idle day at the mine, but half a dozen men wished to go in for the purpose of taking up bottom rock. They were allowed by the mine foreman to go in, accompanied by his assistant, the fire boss,

although the latter had not inspected the mine for about thirty-six hours. Arriving at the foot of the slope, where the waiting station is located, the fire boss (or mine foreman's assistant), instead of leaving the men there while he made a tour of inspection, as required by law, said, "Well, we will go in," or words to that effect, and led the way, the men in accompanying him likewise violated the mine law, which plainly directs that "a workman shall not pass beyond any such station until the mine or part of the mine beyond the same has been inspected and reported to be safe." Each member of the party, boss as well as men, had an unprotected light. The fact that the fire boss probably also had a safety lamp at the time of the explosion is immaterial. When they reached a point where doors opened to the right and left, the fire boss said: "Let us go this way," and most of the party followed him to the left-hand door; but we believe from the circumstances, that one of the party entered the right-hand door, and that his lamp ignited the gas, which evidently had collected there. The accumulation of explosive gas was, at least in part, doubtless due to the stoppage of the fan for repairs, for about an hour and a half, on the day previous (Sunday), but the action of the fan during Sunday night would readily have removed the gas had it not been for the fall of coal and rock under and upon the slope, which allowed a portion of the air that should have been conducted down to and around the third vein (as usual) to be diverted from its proper course and pass more or less directly to the air shaft, through the upper or Clark vein—thus reducing the air supply in the lower vein so that it was insufficient for removing the dangerous gas.

The testimony shows that the mine officers had full knowledge of the fall at the slope from the time it occurred, on Thursday, August 26, and they should have understood (or determined by testing) the consequent loss of air to the lower vein.

We believe they should not have allowed any person, except such as were required for repairing, to enter the mine for the purpose of working therein, until the mine had been put in a safe and proper working condition.

Reese G. Brooks,
George E. Stevenson,
J. J. Howley,
Griffith Thomas,
John Gordon,
William A. Parnell.

Relief Fund for the Bereaved Families of the Fair Lawn and Marvine Mine Disasters.

In response to an appeal on behalf of the bereaved families of the Fair Lawn and Marvine shaft disasters, the Scranton *Truth* raised a popular subscription for their immediate relief, amounting to $2,424 12. This amount was promptly distributed among the widows and orphans by a committee appointed by the publishers of the *Truth*, consisting of his Honor Mayor Ripple, of Scranton; Mr. P. J. Ruane, city treasurer of Scranton, and H. M. Edwards, Esq., district attorney of Lackawanna county, and proved a great boon to the stricken families in their time of need. Attached hereto is the report of the committee:

The Committee's Report.

To Messrs. Barrett & Jordan, Editors of The Truth:

SCRANTON, *October 29, 1886.*

GENTLEMEN—The committee appointed to distribute the Marvine and Fair Lawn relief fund beg leave to present, after careful consideration, the following report. In order to facilitate the work of the committee, you had obtained for us all the data with regard to the bereaved families, their necessities and the number of dependent ones, with their means and condition. The committee visited the families on Friday, October 29, 1886, and verified the information gained by you. We found thirteen widows, or heads of families, thirty-five children, or dependent ones, making forty-eight in all. Of these, five were widows who had no means of support, some aged, and one nearly blind. We have decided, after a thorough discussion of the matter, to set aside from the fund fifty dollars for each of these widows, and to divide the balance of the fund between the total number of beneficiaries. This amount would give each one $45 29, and to each of the widows named above $95 29. The distribution, as made, is as follows:

Mrs. Elizabeth Young, widow, three children,	$181 17
Mrs. Annie Shafer, widow,	95 28
Mrs. Patrick Murphy, widow,	95 28
Mrs. Mary McGuire, widow,	95 28
Mrs. Mary Carden, widow, six children,	317 05
Mrs. Kate McNulty, widow, seven children,	362 42
Mrs. Kate Kerrigan, widow, three children,	181 17
Mrs. Pierce, widow,	95 29
Mrs. Mary Conners, widow, four children,	226 50
Mrs. James Pryel, widow,	95 29
Mrs. Mary Gaughan, widow, six children,	317 05
Mrs. Mary Caveny, widow, six children,	317 05
Mrs. Philbin, expenses of burial of Patrick Comer,	45 29
Total,	$2,424 12

Before closing this report, we beg leave, on behalf of the widows and orphans, to return you and the people who contributed so liber-

ally towards this fund, sincere thanks. Your committee met, in the course of its investigation, some very pitiful cases, and we consider this one of the most worthy objects that has ever been advocated by any journal. The sum realized is magnificent. Hoping the prayers of these widows and orphans, from whose doors the wolf will be kept by this fund, will reward you, we are, with thanks for the honor conferred upon us,

Yours respectfully,

Ezra H. Ripple,
H. M. Edwards,
P. J. Ruane,
Committee.

The Delaware and Hudson Canal Company distributed gratuitously to the bereaved families of Marvine shaft disaster, the following amounts:

To Mrs. Patrick McNulty,	$1,000
To Mrs. John Elizabeth Young,	800
To Mrs. Cormac Mary McGuire,	500
To Mrs. Patrick Mary Cavanagh,	1,000
To Mrs. Catharine Murphy,	500
To Mrs. Mary Carden,	1,000
To Mrs. John Shaffer,	500

They also paid $500 for burial expenses.

Meadow Brook Shaft Fire and Accident.

On December 20th, 1886, an accident occurred in Meadow Brook shaft, instantly killing John Rogers and seriously injuring John O'Hara, John Nee and Anthony Dougherty, who were working filling, building walls and pointing the cross-cuts with mortar. At about five o'clock on the afternoon of December 20th, John Rogers, assistant mine foreman, John O'Hara, driver boss, and John Nee, Anthony Dougherty and Michael O'Gallagher, laborers, started to fill a cross-cut. Rogers and O'Hara, after they set the men to work, went back from the cross-cut about twenty feet and sat down along the rib. As soon as they had done so a fall of roof was precipitated on them, instantly killing John Rogers and seriously injuring O'Hara, Nee and Dougherty, and slightly injuring O'Gallagher. Where they were working, in Stokes counter gangway, was heated from its proximity to the fire, which caused an expansion of the roof to a certain extent, closing up the cross-cuts. This caused a current of cool air to flow through, which had a tendency to contract the rock roof, which, in my opinion, was the cause of the fall and accident.

Attached hereto is a tracing showing the location of the fire and fall which caused the accident. Also a description of the mode of operations to distinguish the fire.

Marvine Mine Disaster.

Marvine mine, which had previously been in successful operation, employing about 250 men and boys, on September 13th, 1886, was the scene of a serious disaster, caused by an extensive fall.

The fall was caused by the settling of eight (8) acres in a basin of the mine north-west of the shaft, in which locality the coal of that part of the mine, the vein being about sixteen (16) feet thick, had been mined out. Pillars of the usual dimensions, which had been left for supporting the roof, were crushed by the superincumbent pressure. There were about 100 men and boys working in the portion of the mine that caved in. All except eight escaped. These could have gotten out safely if they had persevered as the others did. They were within ninety (90) feet of the foot of the slope, indicated by letter D, on tracing attached to this report. At this point, it seems they had a consultation and turned back into the mine. They were met going back by William Shaffer, son of John Shaffer, who implored his son with tears in his eyes to return with them, but he went right on toward the shaft; he got to a point marked G on tracing, where he was caught by a fall of roof and held fast until relieved by Peter Kelly, a propman, who was coming out after him. Both of them came to the foot of the shaft in safety. They were also met going back by Paul Bright and Robert Proudlock, the fire boss, who tried to persuade them to return and go out with them, but without avail. Bright and Proudlock reached the foot of the shaft without being injured. The names of the persons who returned into the mine and were lost, are: John Young, Patrick McNulty, John Shaffer, Patrick Murphy, Patrick Harrison, John Carden, Cormac McGuire, and Patrick Cavanagh. John Carden, one of the party that lost his life, was out at the foot of the slope, when he heard his uncle, Cormac McGuire, imploring for assistance. He returned to his relief, but never came out alive. The heroic action of John Howells deserves special mention. As he was coming out, creeping over the fall with the roof falling around him, he heard the cry for help of a boy named John Ready, who was held fast by a slab of rock. He returned, turned the rock off his foot, but the boy lost some of his toes and could not walk. Howells hoisted him on his back and carried him to the foot of the shaft, a distance of about 2,000 feet.

The first indication of a creep or squeeze was on Monday morning, September 6th. A slight squeeze was noticed in Thomas Lynch's chamber. He was compelled to quit and would not be allowed to work any longer. Next morning the squeeze extended to the chamber inside, marked on tracing Elijah Filer. He had to quit work also. Next morning the squeeze extended two chambers further in, marked on tracing Frank Collins and Valentine Birtly. When it got this far, all the men were removed from this section of the workings to

another portion of the mine. The squeeze seemed to stop at this point, and did not extend any further at that time.

On September 13th, the men went in as usual in the morning to their work, and, from the testimony of the witnesses who appeared before the coroner's jury, everything was quiet and no sign of a squeeze. About eight o,clock, the coal began to chip off the pillars from the pressure of the overlying strata, and at about fifteen minutes after eight o'clock the mine foreman thought he had better stop the work in that part of the mine. He then sent messengers through and notified everybody to come out. They all came out except the eight men who have been mentioned as going back and being lost. Every effort was made to rescue them, but the roof kept falling and it was dangerous to risk going over the fall. On the afternoon of the 13th, every place was blocked tight with falls from the roof. Air bridges and doors were all destroyed, which caused the stoppage of the circulation of air. About noon, on the 14th, gangs of men were started to cut through to rescue the men at two places. One of the places colored red on tracing and marked F, and another from the same heading to be driven into a chamber marked James Lynch. This last place had to be abandoned when they reached a distance of fifteen feet, as the drill was caught fast in the hole on account of the squeeze. The distance to be driven on heading marked F on tracing was 154 feet. It took nearly six days to go through to the lower heading. Six bodies were found at the face of the heading, marked A, on September 21st, and two bodies were found on the 23rd, at points marked B and C. Attached, you will find tracing with notes and letters denoting where men were found, also the verdict of the coroner's jury:

The Verdict.

Commonwealth of Pennsylvania, } *ss:*
Lackawanna County, }

An inquisition indented and taken at the First ward of Scranton, in the county of Lackawanna, the ninth day of October, in the year of our Lord one thousand eight hundred and eighty-six, before me, G. E. Dean, M. D., coroner of the county aforesaid, upon the view of the bodies of John Young, Patrick McNulty, John Shaffer, Patrick Murphy, Patrick Harrison, John Carden, Cormac McGuire, and Patrick Cavanagh, then and there lying dead, upon the oaths of A. B. Dunning, foreman, James White, D. T. Lewis, J. O. Stanton, Benjamin Hughes, and John Costello, good and lawful men of the county aforesaid, who being sworn and affirmed to inquire on the part of the Commonwealth, when, how, where, and after what manner the said eight men came to their deaths, do say, upon their oaths and affirmations respectively, that there was strong suspicion of violence, such as to make an inquest necessary.

We find that John Young, Patrick McNulty, John Shaffer, Patrick Murphy, Patrick Harrison, John Carden, Cormac McGuire, and Patrick Cavanagh, came to their deaths on the 13th day of September, A. D. 1886, in the slope section of the fourteen-foot vein, at the Marvine shaft of the D. & H. C. Co., by being suffocated by mine gas, caused by the circulation of air having been cut off by an unusually large fall of roof.

From the testimony of those who escaped from the same portion of the mines, it seems that in going to work that morning the deceased did not apprehend any danger, although, probably, aware that there was undue pressure on the pillars of several chambers on No. 2 air split, and that the squeeze was extending.

This system of mining—which may be compared to working in a bottle with no channel for egress of air, except at the nozzle—though generally in vogue throughout this district, and not distinctly forbidden by law, is certainly reprehensible.

If the officials in charge had had sufficient foresight to have made, beforehand, the heading connection which was afterward done to recover the bodies, or prevented the men from entering until there was a second opening, the disaster would have been averted.

In witness whereof, as well the aforesaid coroner, the jurors aforesaid have to this inquisition put their hands and seals, on the day and year and at the place above mentioned.

G. EDGAR DEAN,
A. B. DUNNING, JR., Foreman,
JOHN J. COSTELLO,
JAMES S. WHITE,
D. T. LEWIS,
JOHN O. STANTON,
BENJAMIN HUGHES.

NOTE.—This portion of the mine has been abandoned and filled with water.

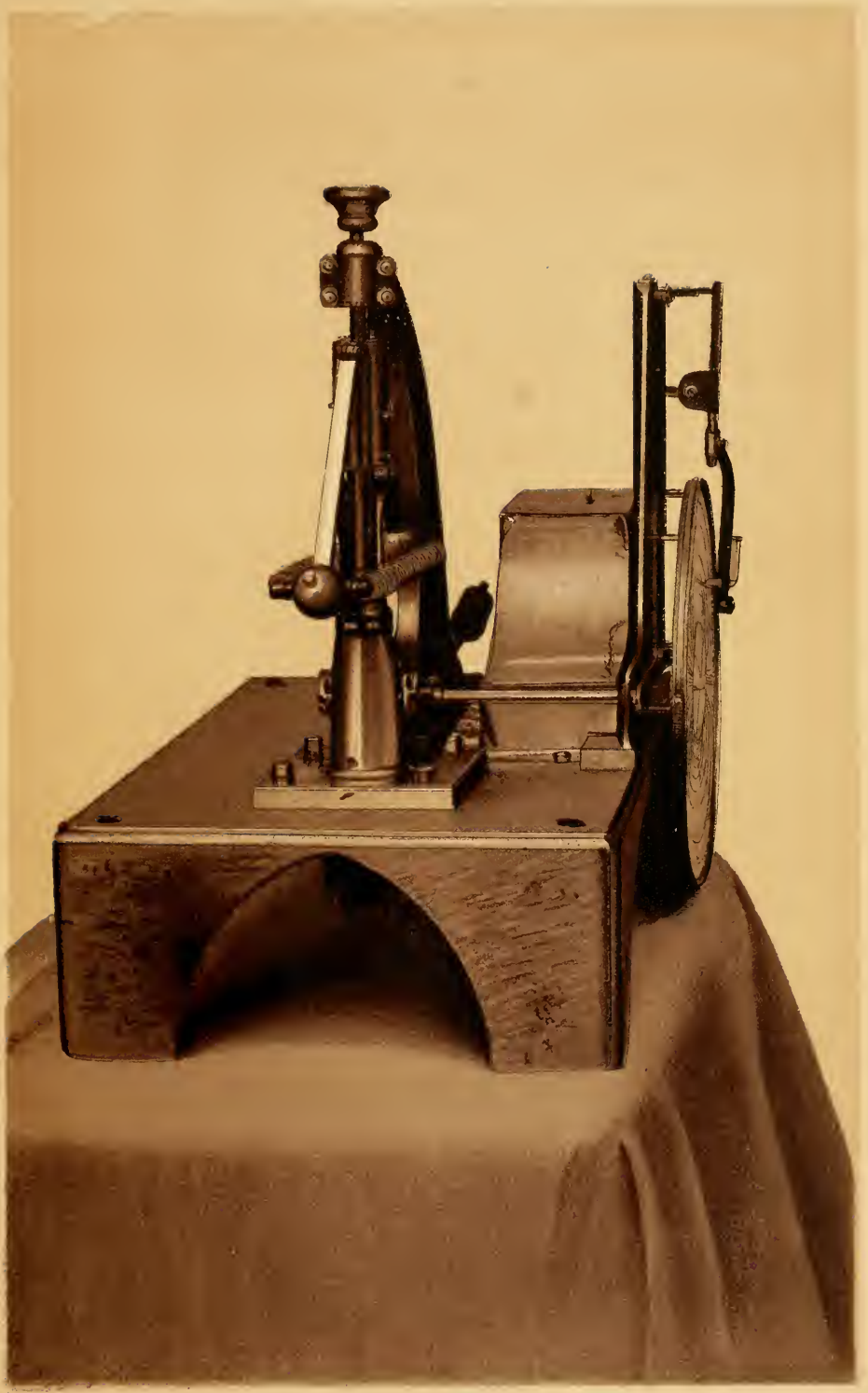
Time and Speed Indicator.

Article 10, section 17, of the anthracite mine law of Pennsylvania, requires that all ventilators used at mines generating explosive gases, shall be provided with a recording itstrument, by which the number of revolutions of the fan shall be registered each hour, and such data shall be taken and reported, &c., &c.

Mr. Edmund Bartl, engineer Delaware, Lackawanna and Western Railroad Company, has devised an instrument which will do the work demanded by the above law admirably. It consists of a metal pedestal, which is erected on blocks at the side of the fan or engine shaft, which supports a small vertical shaft to which a governor is attached. On the lower end of the shaft is a small cog wheel, which is geared to a large driving wheel screwed into the end of the fan or en-

BARTL'S TIME AND SPEED INDICATOR.

FRONT ELEVATION.



BARTL'S TIME AND SPEED INDICATOR
SIDE ELEVATION.

gine shaft. The work is performed by the governor pressing down one end of a system of leverage, (attached also to the vertical shaft,) which on the other end raises an arm to which is attached a pen filled with ink, which presses against a paper dial held in position by a light case of sheet brass. The higher the speed, the more the governor presses down the lever, and, consequently, the higher the arm holding the pen is raised. The time is recorded by a clock, to whose shaft the dial case is attached. Six dials can be put in the case, and each one is taken off every twenty-four hours at a convenient time. The clock runs for a week, so that all that is necessary is to slip off the dial without stopping anything, the pen going on to the next succeeding sheet.

The inventor claims the special advantage of using pen and ink instead of pencil, inasmuch as the ink, being indelible, any tampering with the diagram would be easily detected.

The instrument has been tested for a week at the Bellevue mines. The chief engineer and the mine inspectors of the districts examined it while at work, and its performance was highly satisfactory to them, the revolutions of the fan being recorded accurately to within half a revolution, when the fan was making 138 minutes.

Two photographs, (side and end views,) attached hereto.

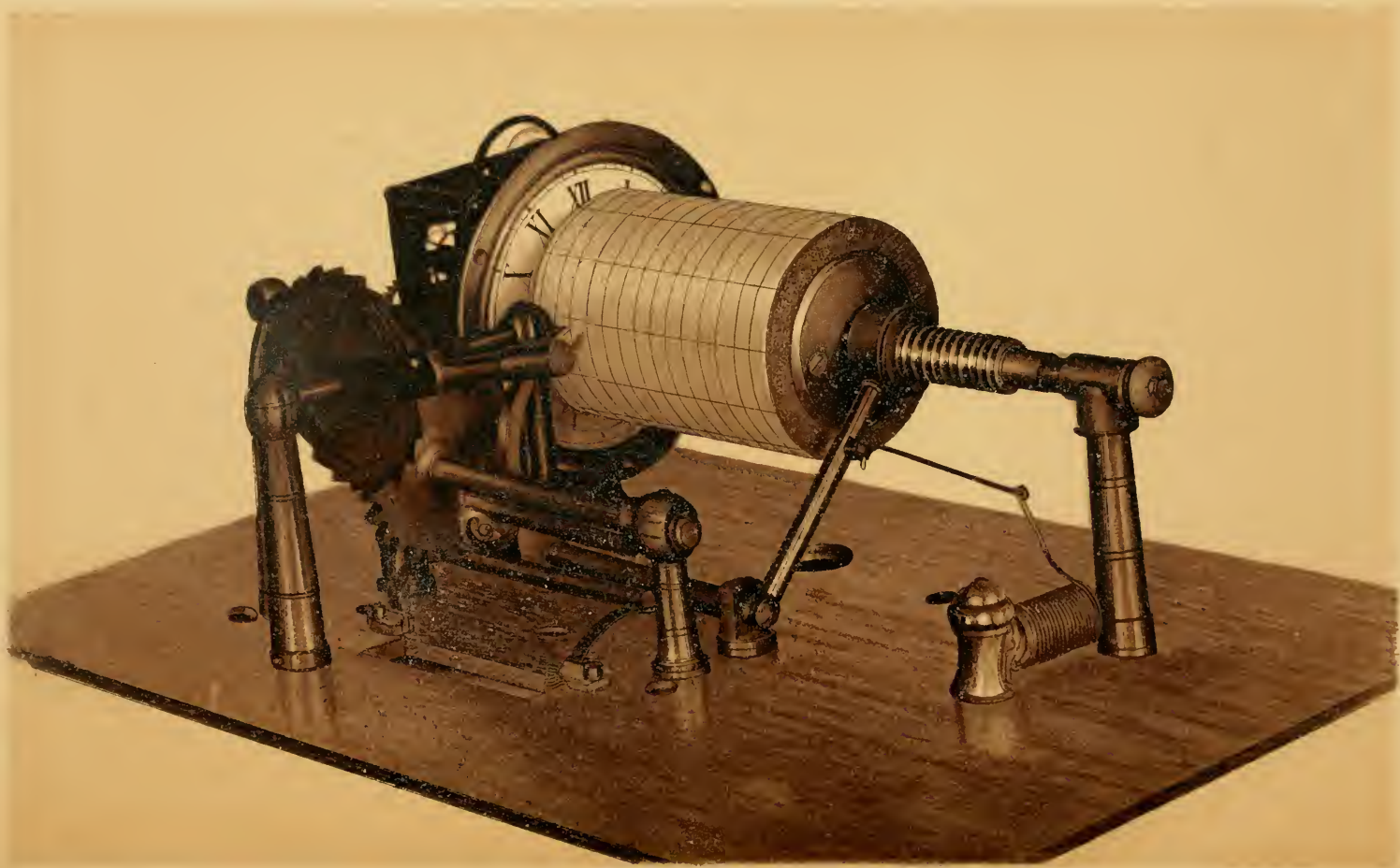
Townsend Poore's Speed Register for Fans or Other Machinery.

This instrument, from its simplicity, is enduring and can be made at a reasonable cost. It makes a positive record of the revolutions of a fan or other rotary machinery, or the movements of reciprocating machinery, by registering the revolutions of the engine or other motor which drives it, as follows: To an eight-day clock at the spindle, from which the hour hand has been removed, one end of a cylinder about 2¼″ diameter by 2½″ long, is attached, having its outer end pivoted so as to turn with little friction, and so arranged that said cylinder can be easily detached and returned to its correct relative position without stopping the clock. This cylinder has the same motion as would be given to the hour hand of the clock, and is covered by a paper having twelve longitudinal lines running the whole length of the cylinder, which being equidistant divide the periphery into what may be called hour spaces. These hour spaces are again divided by eleven more longitudinal lines into twelve spaces which may be called five-minute spaces.

In addition to these longitudinal lines, the cylinder is marked by a spiral line of ¾″ pitch occupying the whole length of the cylinder, the alternate halves of each of its revolutions being red and the intermediate alternate halves of its revolutions being black. This spiral line is to receive the strokes of the recording style, the red parts during the twelve hours of the day, and the black parts during the twelve hours of the night. The paper is to record a week or month's run as de-

sired. The latter will cost more, as the cylinder must be made longer and some of the other parts of greater scope. The record line of red and black is made spiral, so as to keep each day and night distinct, and the style is fed along the side of the cylinder by a screw of the same pitch as the spiral line on the cylinder, which receives its strokes. By means of this device a record can be kept indefinitely, without the loss of one revolution. Cylinders may be changed without stopping either the engine or the clock, but as all engines must be stopped for packing and inspection, papers or cylinders may be changed during these stops. The record is made by the steel style, so that the marks are like those of the Morse telegraph instrument, legible and permanent. The style rebounds instantly after making its mark, and besides there is a compensating mechanicism to prevent any retarding of the clock by the slight additional friction put on it. Each mark on the paper indicates five hundred revolutions of the motor. These marks could be made more frequent if desired, but any one accustomed to recording instruments, would understand the very great advantages of the system employed on account of the ease with which the record is read.

This mechanicism is clearly shown by the accompanying cut. It may be worked from either a rotary or reciprocating part of the motor, or directly from the fan or other machinery driven. It is easily attached, and requires no more oil or attention than a clock. It is shown with the cover removed. When in service it is closed in a dust proof box 7″×9″ and 4½″ deep, with a glass top through which it may be examined.



POORIS SPEED REGISTER.

TABLE No. 1—Showing location of collieries in the First Anthracite Mine District for year ending December 31, A. D. 1886.

Name of Colliery.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Archbald shaft,	Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	Benjamin Hughes,	Scranton.
Bellevue shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Bellevue slope,	Do. do. do. do.	Do.	Do. do.	Do.
Brisbin shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Bridge shaft,	Bridge Coal Company, limited,	Do.	A. B. Stevens,	Do.
Belmont mines,	W. W. Watkins & Son,	Do.	W. W. Watkins,	Carbondale.
Brennan's tunnel,	H. J. Brennan & Bro.,	Do.	Henry J. Brennan,	Do.
Continental shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Scranton.
Central shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Cayuga shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Capouse shaft,	Lackawanna Iron and Coal Company,	Do.	Reese G. Brooks,	Do.
Church drift,	Church Coal Company, limited,	Do.	Wade M. Finn,	Do.
Coal Brook tunnel,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Dodge shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Do.
Diamond shaft,	Do. do. do. do.	Do	Do. do.	Do.
Dickson shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Dolph tunnel,	Dolph Coal Company, limited,	Do.	Edward J. Dolph, Jr.,	Do.
Eddy Creek shaft,	Delaware and Hudson Canal Company,	Do.	A. H Vandling,	Do.
Eaton mines,	Jones, Simpson & Co.,	Do.	Edward Jones,	Archbald.
Edgerton tunnel,	Edgerton Coal Company, limited,	Do.	J. L. Crawford,	Jermyn.
Erie shaft,	Hillside Coal and Iron Company,	Do.	W. A. May,	Scranton.
Fair Lawn slope,	Fair Lawn Coal Company, limited,	Do.	John H. Hosie,	Do.
Filers' slope,	Griffiths & Thomas,	Do.	George A. Jessup,	Do.
Forest City shaft and slope,	Hillside Coal and Iron Company,	Susquehanna,	W. A. May,	Do.
Green Ridge slope,	O. S. Johnson,	Lackawanna,	O. S. Johnson,	Do.
Grassey Island shaft,	Grassey Island Coal Company, limited,	Do.	C. D. Simpson,	Do.
Grassey Island shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Holden shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Do.
Hampton shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Hyde Park shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Jermyn, No. 1, shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Jermyn, No. 2, slope,	Do. do. do.	Do.	Do. do.	Do.
Jermyn, No. 4, shaft,	John Jermyn,	Do.	Walter M. Jermyn,	Do.
Leggett's Creek shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Lackawanna Coal Co., shaft,	Lackawanna Coal Company,	Do.	O. S. Johnson,	Do.
Meadow Brook shaft,	William Connell & Co.,	Do.	William Connell,	Do.
Meadow Brook tunnel,	Do. do.	Do	Do. do.	Do.
Mount Pleasant slope,	William T. Smith,	Do.	William T. Smith,	Do.
Manville shaft,	Del. Lack. and West. R. Co., and D. and H. C. Co.,	Do.	Benj. Hughes & A. H. Vandling,	Do.
Marvine shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
Marshwood mines,	Moosic Mountain Coal Company,	Do.	John R. Davis,	Do.
National shaft and slope,	William Connell & Co.,	Do.	William Connell,	Do.
No. 1 shaft, Carbondale,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
No. 3 shaft, Carbondale,	Do. do. do.	Do.	Do do.	Do.
Oxford shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Do.
Olyphant, No. 2, shaft,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.

TABLE No. 1—*Continued.*

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Pyne shaft,	Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	Benjamin Hughes,	Scranton.
Pine Brook shaft,	Lackawanna Iron and Coal Company,	Do.	Reese G. Brooks,	Do.
Pancoast shaft,	Pancoast Coal Company,	Do.	George Griffin,	Throop.
Pierce mines,	Jones, Simpson & Co.,	Do.	Edward Jones,	Archbald.
Powderly slope,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Scranton.
Richmond shaft,	Elk Hill Coal and Iron Company,	Do.	William H. Richmond,	Dickson City.
Rackett Brook breaker,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Scranton.
Sloan shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Do.
Storrs shaft,	Do. do. do. do.	Do.	Do. do.	Do.
Shaft No. 1, Dunmore,	Pennsylvania Coal Company,	Do.	James Young,	Dunmore.
Shaft No. 2, Dunmore,	Do. do. do.	Do.	Do.	Do.
Shaft No. 3, Dunmore,	Do. do. do.	Do.	Do.	Do.
Shaft No. 4, Dunmore,	Do. do. do.	Do.	Do.	Do.
Shaft No. 5, Dunmore,	Do. do. do.	Do.	Do.	Do.
Spencer's shaft,	A. D. & L. M. Spencer,	Do.	A. D. Spencer,	Do.
S. V. White mines,	Winton Coal Company, limited,	Do.	Byron M. Winton,	Peckville.
Taylor shaft,	Delaware, Lackawanna and Western Railroad Co.,	Do.	Benjamin Hughes,	Scranton.
Von Storch mines,	Delaware and Hudson Canal Company,	Do.	A. H. Vandling,	Do.
White Oak mines,	Do. do. do.	Do.	Do. do.	Do.
White Bridge mines,	Do. do. do.	Do.	Do. do.	Do.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the First Anthracite Mining District for the year ending December 31, 1886.

NAMES OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Archbald shaft,	Lackawanna township,	167,656.12	157,556.12	189	409	1	4	5,531	14	53	
Bellevue shaft,	Do.	184,242.19	168,862.19	183	359	. . .	6	3,593	12	55	
Bellevue slope,	Do.	. . . . .	. . . . .	183	101	1	4	. . . .	. . .	18	
Brisbin shaft,	Scranton city,	22,407.14	16,715.14	122	71	1	1	402	15	23	
Bridge shaft,	Do.	102,902.00	78,649.00	244	278	. . .	2	4,707	11	50	
Belmont mines,	Carbondale township,	11,967.00	10,695.00	83	127	. . .	. . .	600	3	12	
Brennan's mines,	Fell township,	2,910.00	2,790.00	50	12	. . .	. . .	101	3	2	
Continental shaft,	Lackawanna township,	26,508.09	22,328.09	26	20	. . .	. . .	564	15	6	
Central shaft,	Scranton city,	227,956.05	205,450.05	180	458	2	4	4,670	22	70	1
Cayuga shaft,	Do.	170,450.16	159,770.16	178	369	. . .	2	3,861	12	50	
Capouse shaft,	Do.	390,600.00	380,052.00	221	611	2	13	10,385	15	81	
Church mines,	Do.	10,740.00	2,700.00	193	22	. . .	. . .	435	1	11	
Coalbrook mines,	Carbondale city,	239,502.01	235,879.11	211	607	1	7	7,571	7	89	1
Dodge shaft,	Lackawanna township,	153,063.01	148,053.04	180	330	1	6	4,745	23	80	
Diamond, No. 2, shaft,	Scranton city,	. . . . .	. . . . .	182	71	. . .	. . .	. . . .	26	16	2
Diamond Tripp shaft,	Do.	232,753.10	213,429.10	182	457	1	. . .	5,914	29	76	1
Dickson shaft,	Do.	169,346.17	158,636.06	189	353	1	5	5,207	12	37	
Dolph mines,	Winton borough,	62,195.07	61,627.00	184	271	. . .	. . .	2,444	4	21	
Eddy Creek shaft,	Olyphant borough,	163,573.07	143,625.02	198	462	. . .	9	5,619	12	53	
Eaton mines,	Archbald borough,	95,245.16	94,996.16	193	324	1	4	3,196	6	25	2
Edgerton mines,	Do.	113,797.08	112,576.13	196	217	. . .	6	4,385	4	20	1
Erie shaft,	Glenwood borough,	125,008.05	123,275.04	210	442	1	3	3,810	21	54	
Fair Lawn slope,	Scranton city,	54,776.04	40,685.00	177	183	7	4	2,200	5	18	
Filer's slope,	Winton borough,	45,207.05	43,262.05	146	197	. . .	. . .	2,275	9	18	
Forest City shaft and slope,	Clifford township, Susquehanna county,	97,071.19	92,148.17	197	290	2	1	4,167	9	35	1
Green Ridge slope,	Dunmore borough,	135,486.02	130,855.13	191	404	2	14	5,492	12	37	
Grassey Island shaft,	Winton borough,	87,500.16	85,214.11	157	344	1	1	2,950	12	27	1
Grassey Island shaft—Delaware and Hudson,	Olyphant borough,	112,417.06	100,903.02	186	271	3	2	3,470	18	38	1
Holden shaft,	Lackawanna township,	117,923.05	114,072.05	195	236	. . .	9	4,347	12	29	
Hampton shaft,	Do.	41,497.13	40,375.13	56	382	. . .	. . .	1,198	13	60	
Hyde Park shaft,	Scranton city,	142,321.00	136,565.00	183	289	4	5	3,898	12	47	
Jermyn, No. 1, shaft,	Jermyn borough,	167,894.18	150,353.07	203	389	1	. . .	3,288	12	35	
Jermyn, No. 2, slope,	Do.	35,734.04	31,723.15	146	66	. . .	1	1,000	4	11	
Jermyn, No. 4, shaft,	Dickson City borough,	163,251.12	161,883.08	206	448	1	6	5,655	18	46	
Keystone mine,	Glenwood borough,	118,951.18	118,793.02	250	329	. . .	2	3,880	2	33	1
Leggitt's Creek shaft,	Scranton city,	165,461.13	152,674.16	193	464	. . .	2	4,181	14	49	

TABLE No. 2—*Continued.*

NAME OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Lackawanna Coal Company's shaft,	Blakely borough,	155,016.01	153,329.16	201	366	. . .	1	5,424	9	41	
Meadow Brook shaft,	Scranton city,	176,560.00	140,927.00	213	324	2	6	6,524	17	41	
Meadow Brook tunnel,	Do.	*	. . . . .	200	75	. . .	2	. . . .	1	16	
Mount Pleasant slope,	Do.	133,582.00	125,282.00	180	348	1	9	3,500	10	40	
Manville shaft—D , L. & W R. R. Co,	Do.	68,538.11	63,431.01	69	107	1	. . .	1,725	18	48	
Manville shaft—D. & H. C. Co.,	Do.	90,939.10	83,687.06	100		. .	5	2,275			
Marvine shaft,	Do.	157,075.00	144,555.00	185	380	9	7	3,968	15	43	
Marshwood slope and tunnel,	Olyphant borough,	475.00	†	. . .	. . .	. . .	. . .	100	. . .	3	
National shaft and slope,	Scranton city,	98,992 00	98,992.00	146	288	. . .	2	3,535	10	24	1
No. 1 shaft, Carbondale,	Carbondale city,	30,295.09	27,165.09	197	255	. . .	. . .	3,684	5	30	
No. 3 shaft and White Bridge tunnel,	Do.	Idle in 1886									
Olyphant, No. 2, shaft,	Olyphant borough,	Idle in 1886									
Oxford shaft,	Scranton city,	127,240.18	120,006.18	183	326	1	4	3,734	19	47	
Pyne shaft,	Lackawanna township,	174,133.19	166,996.00	182	396	1	5	4,681	12	56	1
Pine Brook shaft,	Scranton city,	8,575.00	4,363.00	70	63	. . .	. . .	198	3	5	
Pancoast shaft,	Dickson City borough,	136,449.06	121,314.00	204	400	3	4	5,710	15	43	
Pierce tunnel,	Archbald borough,	84,921.00	83,196.00	133	311	1	3	2,828	13	26	3
Powderly slope,	Carbondale city,	82,292.15	77,597.00	201	253	. . .	3	3,565	9	21	
Richmond's shaft,	Scranton city,	39,347.00	37,597.00	152	139	. . .	2	1,550	4	15	
Rackett Brook breaker,	Carbondale township,	184,948.05	182,757.00	241	76	. . .	. . .	. . . .	5	3	
Sloan shaft,	Lackawanna township,	176,955.11	165,842.00	168	441	. . .	7	4,848	18	66	
Storr's shaft,	Dickson City borough,	‡	. . . . .	. . .	29	. . .	. . .	227	6	1	
Shaft No. 1, Dunmore borough,	Dunmore borough,	‖	. . . . .	. . .	25	1	1	. . . .	6		
Shaft No. 2, Dunmore borough,	Do.	66,652.00	66,212.00	258	119	. . .	3	3,100	3	8	1
Shafts Nos. 3 and 4, Gypsey Grove,	Do.	122,231.00	122,231.00	220	327	1	4	5,523	10	38	
Shaft No. 5, Dunmore,	Do.	109,212.00	107,020.00	270	272	. . .	3	5,491	5	18	
Spencer's shaft,	Do.	83,131.19	75,829 00	133	255	. . .	2	3,975	11	22	
S. V. White mines,	Winton borough,	45,671.00	41,558.00	224	202	. . .	2	2,320	3	11	1
Simpson's mines,	Fell township,	23,225.00	22,225.00	122	127	1	1	1,147	6	16	1
Taylor mines,	Lackawanna township,	186,713.05	185,732.00	203	451	. . .	8	5,858	16	80	
Von Storch slope and shaft,	Scranton city,	236,990.16	214,029.00	199	600	4	6	6,195	15	75	
White Oak mines,	Archbald borough,	115,453.06	109,168.00	206	342	. . .	6	3,816	9	32	
Local Coal Sale mines,		35,840.00	. . . . .	. . .	220	. . .	. . .	1,280			
Delaware, Lackawanna and Western Railroad Company,	Floating gangs of mechanics, &c.,	. . . . .	. . . . .	. . .	209						
Delaware and Hudson Canal Company,	Do. do.	. . . . .	. . . . .	. . .	55						
Total.		7,112,295.16	6,731,227.00	. . .	18,774	60	217	221,141	715	2,291	20

* Coal prepared at National breaker. † New work, not in operation yet. ‡ No coal shipped. Driving headings and airways. ‖ Shaft sunk to lower vein. No coal shipped.

TABLE No. 3—Showing the number of each class of employés at each colliery in the First Anthracite Mine District during the year 1886.

Names of Collieries.	Location.	Number of Persons Employed Inside.							Number of Persons Employed Outside.						Grand totals—inside and outside.
		Inside foreman or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Mechanics.	State police.	All company men.	Superintendents, book-keepers and clerks.	Total outside.	
Archbald shaft,	Lackawanna township,	1	102	102	21	36	6	265	1	8	76	56	3	141	409
Bellevue shaft,	Do. do.	1	74	74	17	30	3	199	1	11	95	50	3	160	359
Bellevue slope,	Do. do.	1	34	34	13	16	3	101	. .	. . . .	. . . .	. . . .	. . .	. . . .	101
Brisbin shaft,	Scranton city,	1	9	23	11	2	. . .	46	1	5	. . . .	19	. . .	25	71
Bridge shaft,	Do. do.	1	55	50	6	25	10	147	1	6	82	39	3	131	278
Belmont mines,	Carbondale city,	1	45	20	3	14	4	87	1	1	18	20	1	41	128
Brennan's mines,	Do. do.	1	5	. . . .	. . . .	. . . .	. . .	6	1	1	3	1	. . .	6	12
Continental shaft,	Lackawanna township,	. .	1	4	. . . .	. . . .	. . .	5	1	8	. . . .	6	. . .	15	20
Central shaft,	Scranton city,	2	114	129	34	51	12	342	1	10	55	47	3	116	458
Cayuga shaft,	Do. do.	1	87	90	30	38	8	254	1	7	74	30	3	115	369
Capouse shaft,	Do. do.	2	152	156	67	89	20	486	1	15	88	48	3	155	641
Church mine,	Do. do.	1	7	. . . .	. . . .	3	. . .	11	1	. . .	3	6	1	11	22
Coal Brook mines,	Carbondale city,	2	199	90	50	69	9	419	1	11	95	78	3	188	607
Dodge shaft,	Lackawanna township,	1	86	86	19	39	4	235	1	7	39	45	3	95	330
Diamond, No. 2, shaft,	Scranton city,	1	24	24	14	8	. . .	71	. .	. . . .	. . . .	. . . .	. . .	. . . .	71
Diamond Tripp shaft,	Do. do.	1	90	99	31	27	8	256	1	9	88	101	2	201	457
Dickson shaft,	Do. do.	1	86	86	26	38	6	243	1	10	65	32	2	110	353
Dolph mine,	Winton borough,	1	70	68	11	30	5	185	1	4	60	19	2	86	271
Eddy Creek shaft,	Olyphant borough,	2	140	90	40	56	4	332	1	10	66	51	2	130	462
Eaton mines,	Archbald borough,	1	131	55	7	29	6	229	1	13	53	26	2	95	324
Edgerton mines,	Do. do.	1	73	44	5	17	5	145	1	1	38	30	2	72	217
Erie shaft,	Glenwood borough,	1	157	50	25	45	9	287	1	57	62	33	2	155	442
Fair Lawn slope,	Scranton city,	1	33	43	10	22	10	119	1	6	39	14	4	64	183
Filers' slope,	Winton borough,	1	48	49	8	15	4	125	1	5	41	23	2	72	197
Forest City shaft and slope,	Clifford twp., Susquch'a co.,	1	97	50	30	29	8	215	1	7	20	45	2	75	290
Green Ridge slope,	Dunmore borough,	2	102	90	25	60	23	302	1	5	60	34	2	102	404
Grassey Island shaft,	Winton borough,	2	101	83	15	29	10	240	2	7	51	42	2	104	344
Grassey Island, Delaware and Hudson, shaft,	Olyphant borough,	1	90	30	18	31	4	174	1	10	50	34	2	97	271
Holden shaft,	Lackawanna township,	1	70	53	15	26	2	167	1	4	41	22	1	69	236
Hampton shaft,	Do. do.	1	84	96	15	48	9	253	1	10	58	58	2	129	382
Hyde Park shaft,	Scranton city,	1	65	65	23	31	7	192	1	6	53	35	2	97	289
Jermyn, No. 1, shaft,	Jermyn borough,	1	150	60	32	40	5	288	1	6	50	43	1	101	389

TABLE No. 3—*Continued.*

NAMES OF COLLIERIES.	Location.	NUMBER OF PERSONS EMPLOYED INSIDE							NUMBER OF PERSONS EMPLOYED OUTSIDE.						Grand totals—inside and outside.
		Inside foremen or mine boss.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foreman.	Mechanics.	Slate pickers.	All company men.	Superintendent, book-keepers and clerks.	Total outside.	
Jermyn, No. 2, slope,	Jermyn borough,	1	34	7	4	6	. . .	52	1	1	3	8	1	14	66
Jermyn, No. 4, shaft,	Dickson city,	1	118	118	36	52	14	339	1	1	7	55	44	2	109	448
Keystone mine,	Glenwood borough,	1	150	50	11	40	4	256	1	3	40	28	3	75	331
Leggett's Creek shaft,	Scranton city,	2	104	104	40	78	17	345	1	11	58	47	2	119	464
Lackawanna Coal Company shaft,	Blakely borough,	1	95	90	25	45	10	266	1	5	60	32	2	100	366
Meadow Brook shaft,	Scranton city,	1	107	40	15	40	14	217	1	8	65	30	3	107	324
Meadow Brook Tunnel,	Do. do.	1	30	22	6	11	5	75	. .	. .	. .	. .	. .	. .	75
Mount Pleasant slope,	Do. do.	1	73	73	18	51	10	229	1	5	63	48	2	119	348
Manville shaft,	Do. do.	1	98	98	24	60	18	299	1	10	48	47	2	108	407
Marvine shaft,	Do. do.	1	98	72	41	58	6	276	1	10	46	45	2	104	380
Marshwood tunnel and slope,	Olyphant borough,	1	17	4	4	. .	. .	26	. .	1	. .	4	. .	5	31
National shaft and slope,	Scranton city,	1	74	42	20	36	13	186	1	6	65	30	1	103	289
No. 1 shaft and White Bridge tunnel,	Carbondale city,	1	126	19	21	47	3	217	1	4	8	25	. .	38	255
Oxford shaft,	Scranton city,	1	74	84	21	23	6	209	1	10	68	36	2	117	326
Pyne shaft,	Lackawanna township,	1	94	89	22	52	14	272	1	9	60	51	3	124	396
Pine Brook shaft,	Scranton city,	1	13	17	7	4	. . .	42	1	3	4	12	1	21	63
Pancoast shaft,	Dickson City borough,	1	96	96	40	43	19	295	1	9	60	33	2	105	400
Peckville mines,	Winton borough,	1	. .	. .	. .	. .	. .	1	1	. .	. .	21	. .	25	26
Pierce tunnel and slope,	Archbald borough,	1	100	75	18	21	6	221	1	6	40	41	2	90	311
Powderly slope,	Carbondale city,	1	120	40	16	37	3	217	1	3	7	27	. .	38	255
Richmond's shaft,	Scranton city,	1	31	26	15	16	. . .	89	2	2	25	20	1	50	139
Rackett Brook breaker,	Carbondale township,	. .	. .	. .	. .	. .	. .	. .	1	3	46	24	2	76	76
Sloan shaft,	Lackawanna township,	1	105	105	22	44	9	286	1	7	95	50	2	155	441
Storr's shaft,	Dickson City borough,	. .	3	2	. . . .	1	. . .	6	. .	3	. . . .	18	. . .	21	27
Shaft No. 1, Pennsylvania Coal Company,	Dunmore borough,	1	5	5	. .	. .	. .	11	. .	3	. . . .	2	. . .	5	16
Shaft No. 2, Pennsylvania Coal Company,	Do. do.	1	42	42	7	10	4	106	1	1	. . . .	11	. . .	13	119
Shafts Nos. 3 and 4, Gypsey Grove,	Do. do.	1	91	100	13	33	18	256	1	2	30	36	2	71	327
Shaft No. 5, Pennsylvania Coal Company,	Do. do.	1	71	68	14	19	8	181	1	1	52	35	2	91	272
Spencer's shaft,	Do. do.	1	55	55	14	26	11	162	1	5	42	43	2	93	255
S. V. White mine,	Winton borough,	1	45	51	7	13	7	124	1	5	53	16	3	78	202
Simpsons' tunnel and slope,	Fell township,	1	39	23	6	10	2	81	1	3	12	28	2	46	127
Taylor tunnel and shaft,	Lackawanna township,	1	100	107	36	56	16	316	1	5	78	52	2	138	454

Von Storch slope and shaft,	Scranton city,	2	130	130	70	101	15	448	1	15	65	69	2	152	600
White Oak tunnel and slope,	Archbald borough,	1	114	57	16	36	3	227	1	7	67	38	2	115	342
Local coal sale mines,	Lackawanna county,	..	95	35	30	10	...	170	..	...	....	50	...	50	220
*Del. Lack. and West. Railroad Company,		..	....	....	....	....	...	....	..	209	....	....	...	209	209
†Delaware and Hudson Canal Company,		..	....	....	....	....	...	....	..	55	....	....	...	55	55
Total,		71	5,128	3,939	1,260	2,072	459	12,929	62	697	2,898	2,191	112	5,960	18,829

*Floating gangs of machinists, masons, carpenters, surveyors and clerks in office.
†Floating gangs of machinists, masons, carpenters, surveyors and clerks in office.

TABLE No. 4—List of fatal accidents occurring in and about the mines of the First Anthracite Mine District for the year ended December 31, 1886.

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 14	James Corcoran, .	Culm man, . .	60	1	4	Grassey Island—D. & H., ...	Olyphant boro., Lackawanna,	Seriously injured; run over by car; died same day.
19	John H. Edwards, .	Miner, ...	26	. .	. .	Von Storch—D. & H., ...	Scranton city, Lackawanna, .	Killed; fall of top coal.
25	Morgan Sweeney, .	Miner, ...	50	1	3	Von Storch—D. & H., ...	Do. do.	Seriously injured; fall of roof; died same night.
30	James Richards, . .	Miner, ...	31	1	1	Archbald—D., L. & W., ...	Lackawanna twp., Lackaw'a,	Seriously injured; fall of top coal; died three hours after.
Feb. 8	John Jehu, ...	Miner, ...	41	1	4	Von Storch—D. & H., ...	Scranton city, Lackawanna,	Seriously injured; hit by piece of coal flying from blast; died seven hours after.
17	Thomas Jenkins, .	Miner, ...	22	1	1	Capouse—L., I. & C. Co., ...	Do. do.	Seriously injured; fall of coal; died on way to foot of shaft.
24	Patrick Swift, . . .	Miner, ...	60	1	. .	Green Ridge—O. S. f., ...	Dunmore boro , Lackawanna,	Killed; fall of roof.
Mar. 16	William Steele, . .	Laborer, . . .	47	1	. .	Hyde Park—D., L. & W., ...	Scranton city, Lackawanna, .	Seriously injured; fall of coal; died in hospital same day.
29	Peter Munley, . . .	Miner, ...	23	1	. .	Pierce—P. C. Co., Lim., ...	Archbald boro., Lackawanna,	Seriously injured; fall of roof; died two days after.
April 23	John Lewis, ...	Driver, ...	17	. .	. .	Central—D., L. & W., ...	Scranton city, Lackawanna, .	Killed; fall of roof.
May 1	John W. Marshall,	Miner, ...	21	. .	. .	Meadow Brook shaft—W., C. & Co.,	Do. do.	Killed; fall of roof.
6	William Muir, . . .	Donkey run.,	29	1	2	Brisbin—D., L. & W., ...	Do. do.	Killed; fell down shaft.
15	John Roberts, . . .	Miner, ...	47	1	. .	Hyde Park—D., L. & W., ...	Do. do.	Killed; fall of top coal.
17	John Marcom, . . .	Miner, ...	33	1	2	Erie—H. C. & I. Co., ...	Glenwood boro., Lackawanna,	Seriously injured; fall of roof; died on 19th.
22	Adam Pheffer, . . .	Miner, ...	48	1	7	Hyde Park—D., L. & W., ...	Scranton city, Lackawanna, .	Killed; premature explosion of blast.
24	George Davis, . . .	Miner, ...	22	. .	. .	Pyne—D., L. & W., ...	Lackawanna twp., Lackaw'a,	Killed instantly; fall of top coal.
June 19	Ralph Stevenson, .	Driver, ...	16	. .	. .	Pancoast—P. C. Co., ...	Dickson City boro., Lackaw'a,	Killed; was riding in front of loaded mine car; fell under.
July 13	Edward Carr, . . .	Miner, ...	39	1	7	Fair Lawn—F. C. Co., Lim., ...	Scranton city, Lackawanna, .	Killed instantly; fall of roof.
18	Thomas Riley, . . .	Laborer, . . .	18	. .	. .	Gypsey Grove—Pa. C. Co., ...	Dunmore boro., Lackawanna,	Seriously injured; fell in front of a loaded trip of mine cars, which run over him; died one hour after.
24	Reuben Davis, . . .	Miner, ...	25	1	1	Simpson—N. W. C. Co., ...	Fell twp., Lackawanna, . . .	Killed by runaway trip of cars on slope.
Aug. 6	Hugh Tackney, . .	Miner, ...	56	1	5	Jermyn, No. 4—J. Jermyn, ...	Dickson City boro., Lackaw'a,	Both legs and one arm fractured; fall of roof; died on 13th.
13	William Walker, . .	Miner, ...	25	. .	. .	Shaft No. 1—Pa. C. Co., ...	Dunmore boro., Lackawanna,	Drowned; fell off platform into four feet of water in new shaft.
19	Patrick Kennedy, .	Miner, ...	20	. .	. .	Forest City—H. C. & I Co., ...	Forest city, Susquehanna, . .	Killed; fell off mule and dragged to death.

	28	Thomas Allison, . .	Fire-boss, . .	52	1	10	Pancoast—P. C. Co., ...	Dickson City boro., Lackaw'a,	Found dead in sump; supposition hit by hoisting carriage.
	30	Philip Bollard, . . .	Laborer, . . .	25	1	. .	Eaton—J. S. & Co., ...	Archbald boro., Lackawanna,	Killed; caught between car and prop.
	30	Edward Gaughan, .	Miner, ...	45	1	5	Fair Lawn—F., L. C. Co., Lim., . .	Scranton city, Lackawanna, .	These men lost their lives by an explosion of fire-damp caused by carrying naked lights into a body of fire-damp; the mine was not working on account of a fall of rock being on the main hoisting slope, but went in to take up some rock bottom in their working places to be ready for work when the mine started to work. The fire-boss was with them at the time; the coroner's jury found the management guilty of negligence for allowing the men to go into the mine without being examined. Comers died two weeks after; said not to be caused by explosion.
	30	John Kerrigan, . .	Miner, ...	39	1	3			
	30	Michael Pryol, . . .	Miner, ...	45	1	. .			
	30	Edward Pierce, . .	Fire-boss, . .	26	. .	. .			
	30	Hugh Connors, . .	Laborer, . . .	38	1	5			
	30	Patrick Comers, . .	Laborer, . . .	26	. .	. .			
Sept.	6	William Heffron, .	Miner, ...	24	. .	. .	Grassey Island—D. & H., ...	Olyphant boro., Lackawanna,	Killed; fall of a bell, over his traveling road in chamber, hit him.
	13	Patrick McNulty, .	Miner, ...	52	1	6	Marvine—D. & H., ...	Scranton city, Lackawanna, .	These men all died; they were suffocated by CH4 gas. There came a sudden crush; the dip working had been crushing a little in two or three places for about one week previous, but it gave no indication of a large fall. The parties in the dip workings were all notified—about ninety persons out—but those that were within 150 feet of being to the outer edge of the fall, and returned back, got suffocated. Some parties that passed them by came through all safe.
	13	Cormack McGuire,	Miner, ...	48	1	2			
	13	Patrick Cavanagh,	Miner, ...	45	1	6			
	13	John Young, ...	Miner, ...	45	1	4			
	13	John Shaffer, . . .	Culm man, . .	60	1	2			
	13	Patrick Harrison, .	Laborer, . . .	28	. .	. .			
	13	Patrick Murphy, .	Laborer, . . .	25	. .	. .			
	13	Patrick Carden, . .	Laborer, . . .	27	. .	. .			
	20	Michael Mullaney,	Miner, ...	40	1	9	Capouse—L. I. & C. Co., ...	Scranton city, Lackawanna, .	Seriously injured; fall of rock; died same afternoon.
	29	John Carroll, . . .	Miner, ...	55	1	9	Von Storch—D. & H., ...	Do. do.	Killed instantly; fall of top coal.
Oct.	7	Thos. Greenslade,	Miner, ...	48	1	7	Jermyn, No. 1—D., L. & W., ...	Jermyn boro., Lackawanna, .	Killed; fall of roof.
	11	James Apgood, . .	Miner, ...	56	1	7	Bellevue slope—D., L. & W., ...	Lackawanna twp., Lackaw'a,	Killed; fall of top coal.
	15	Thomas Rooney, .	Miner, ...	50	1	1	Dodge—D., L. & W., ...	Do. do.	Ribs fractured; fall of coal; died two days after.
	19	Robert Armstrong,	Laborer, . . .	21	. .	. .	Mount Pleasant—W. T. S., ...	Scranton city, Lackawanna,	Killed; fall of top coal.
	21	Daniel Morgan. . .	Door-boy, . .	14	. .	. .	Central—D., L. & W., ...	Do. do.	Killed by being run over by loaded car in mines.
	22	Thomas Jones, . .	Laborer, . . .	20	. .	. .	Hyde Park—D., L. & W., ...	Do. do.	Killed instantly; fall of roof.
	25	Thos. Prendergast,	Miner, ...	53	1	5	Pancoast—P. C. Co., ...	Dickson City boro., Lackaw'a,	Reported not of a serious nature; died two hours after; fall of top coal.
	26	John Ready, ...	Laborer, . . .	21	. .	. .	Dickson—D. & H., ...	Scranton city, Lackawanna, .	Leg fractured and severely injured on body; fall of top coal; died 11.30, P. M., same day.
	27	John Kelleher, . .	Driver, ...	17	. .	. .	Manville—D. & H, and D., L. & W.,	Do. do.	Killed by runaway trip of cars on plane.
	28	Patrick Roban, . .	Miner, ...	34	1	3	Green Ridge—O. S. J., ...	Dunmore boro., Lackawanna,	Seriously burned; explosion of gas; died next day.
Nov.	22	Jos. Weitzegman, .	Door-boy, . .	15	. .	. .	Tripp shaft—D., L. & W., ...	Scranton city, Lackawanna, .	Seriously injured; run over by trip of mine cars; died one hour after.
Dec.	2	Parry Parry, ...	Miner, ...	24	1	1	Grassey Island—G. I. C. Co., ...	Olyphant boro., Lackawanna,	Killed; fall of top coal.

TABLE No. 4—*Continued.*

Date of accident.	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Dec. 11	Patrick McGlynn, .	Footman, . .	20	. .	. .	Grassey Island—D. & H., ...	Olyphant boro., Lackawanna,	Killed by descending carriage in shaft.
11	Thomas Conners, .	Slate-picker, .	14	. .	. .	Coal Brook—D. & H., ...	Carbondale city, Lackawanna,	Killed; was found in screen badly mangled.
14	Peter Donnelly, . .	Laborer, . . .	35	. .	. .	Forest City—H. C. & I. Co., ...	Clifford twp., Susquehanna, .	Killed; fall of rock roof.
20	John W. Roeers, .	Dep. mine for.	35	1	3	Meadow Brook—W. C. Co., ...	Scranton city, Lackawanna, .	Killed instantly; fall of roof.
21	Thomas Jarvis, . .	Laborer, . . .	37	1	2	Marvine, ...	Do. do.	Killed.
24	Sydney Phillips, . .	Driver, ...	15	. .	. .	Oxford—D., L. & W., ...	Do. do.	Killed; was sitting on front bumper of car, it jumped the track, threw him in front, car run over him.
	Total, ...	. . . . .		36	127			

Causes of Fatal Accidents.

Falls of roof, ...	15	equal to	25.00 per cent.
Falls of coal, ...	13	"	21.67 "
Killed by mine cars, ...	9	"	15.00 "
Asphyxiated by fall of roof in Marvine shaft, ...	8	"	13.33 "
Explosion of CH4 gas, ...	7	"	11.67 "
Falling down shafts, ...	2	"	3.33 "
Blasting coal, ...	2	"	3.33 "
Caught by hoisting carriage in shafts, ...	2	"	3.33 "
Caught in machinery outside, ...	2	"	3.33 "
	60		100 "

There was mined in First district in A. D. 1886, 7,112,295.16 tons of coal.

There were 60 deaths in First district, in A. D. 1886. There was one death for every 118,538 tons of coal mined.

There were 36 widows in First district in A. D. 1886. There was one widow for every 197,564 tons of coal mined.

There were 127 orphans in First district in A. D. 1886. There was one orphan for every 56,003 tons of coal mined.

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the First Anthracite Mine District for the year ending December 31, 1886.

Date of accident.		NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan.	6	Patrick Riley, . . .	Door-boy, . .	14	Capouse, ...	Scranton city, Lackawanna,	Slightly injured; burned by kerosene oil.
	6	James Hines, . . .	Laborer, . . .	45	Holden, ...	Lackawanna twp., do.	Injured by fall of rock.
	7	Frank Gangwier, .	Culm dumper,	17	Do.	Do. do.	Leg fractured; mule pulled T iron rail on his leg.
	11	Joseph R. Williams,	Com. laborer,	29	Capouse, ...	Scranton city, do.	Wheels of car injured two fingers on his hand.
	12	Charles Spranigle,	Footman, . .	25	National, ...	Do. do.	Foot slightly injured; caught under hoisting carriage.
	13	Thomas Malone, . .	Miner, ...	48	White Oak, ...	Archbald borough, do.	Leg broken and otherwise injured by fall of roof rock.
	14	James Freeman, .	Laborer, . . .	28	Dodge, ...	Lackawanna twp., do.	Slightly injured; hit by piece of coal from blast.
	14	John C. Lavelle, .	Miner, ...	34	Do.	Do. do.	Injured slightly from same cause.
	15	Thomas H. Jenkins,	Fire-boss, . .	50	Taylor, ...	Do. do.	Head and foot slightly injured; fall of roof.
	16	J. B. McManime, .	Outs'e brake'n	18	Meadow Brook, ...	Scranton city, do.	One finger broken; fell off train of cars.
	19	Lawrence Mullen, .	Laborer, . . .	25	Shaft No. 5, Penn'a. Coal Co., . . .	Dunmore borough, do.	Right leg broken below the knee; fall of roof.
	20	Michael Ratchford,	Driver'shelp'r	15	Bellevue slope, ...	Lackawanna twp., do.	Right arm broken; caught between bumpers of cars.
	20	George Kohler, . .	Driver, ...	17	Pyne, ...	Do. do.	Severely injured; fell between cars.
	21	Charles Seaman, .	Driver, ...	16	Pierce, ...	Archbald borough, do.	Slightly injured; squeezed between car and roof.
	21	Patrick Cornell, . .	Laborer, . . .	20	Holden, ...	Lackawanna twp., do.	Injured; hit by flying coal from blast.
	22	Joseph Leleski, . .	Miner, ...	30	Fair Lawn, ...	Scranton city, do.	Both these men were burned by an explosion of fire-damp.
	22	John J. Walsh, . .	Miner, ...	35	Do.	Do. do.	
	29	Thomas Jones, . .	Driver, ...	16	Mount Pleasant, ...	Do. do.	Leg broken; fell under a trip of mine cars.
Feb.	3	Patrick Brennan, .	Laborer, . . .	65	White Oak, ...	Archbald borough, do.	Leg fractured, Fall of six-inch coal.
	3	Patrick Connors, .	Laborer, . . .	45	Do.	Do. do.	Knee joint dislocated, Fall of six-inch coal.
	3	Thomas Flannery,	Miner, ...	34	Keystone, ...	Glenwood borough, do.	Instep fractured; fall of coal.
	6	William Thorp, . .	Miner, ...	29	Jermyn, No. 4, ...	Dickson city boro., do.	Arm slightly burned; explosion of powder while handling.
	8	Frank Frabriska, .	Miner, ...	32	National, ...	Scranton city, do.	Slightly burned; explosion of fire-damp.
	9	John L. Lewis, . . .	Miner, ...	63	Central, ...	Do. do.	Thigh fractured by fall of roof.
	11	Patrick Philbin, . .	Miner, ...	24	Shaft No. 2, Penn'a. Coal Co., . . .	Dunmore borough, do.	Injured slightly by premature blast.
	17	Ed. F. Howard, . .	Driver, ...	16	Eddy Creek, ...	Olyphant borough, do.	Slightly injured; fell in front of a trip of cars.
	18	Mike Mulligan, . .	Miner, ...	33	Do.	Do. do.	Wrist slightly injured; hit by piece of coal from blast.
	19	Adam Markell, . .	Laborer, . . .	39	Shaft No. 2, Penn'a. Coal Co., . . .	Dunmore borough, do.	Both legs fractured; caught between two cars.
	22	Thomas Morgan, .	Carpenter, . .	35	Lackawanna Coal Company, ...	Blakeley borough, do.	Foot badly bruised; mine car run over it in mine.
	23	Lewis Prosser, . . .	Driver, ...	16	Jermyn, No. 4, ...	Dickson city boro., do.	Seriously injured; mine car run over him.
	25	James Finnerty, . .	Laborer, . . .	34	Taylor, ...	Lackawanna twp., do.	Foot slightly injured; fall of roof.

TABLE No. 5—List of non-fatal accidents, &c.,—*Continued.*

Date of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
March 2	Frank McGinty, . .	Slate-picker, .	11	Eddy Creek, ...	Olyphant borough, Lackaw'a.,	Leg and arm crushed; was walking on frame work round screens and fell in.
4	John Jordan, . . .	Miner, ...	52	Central, ...	Scranton city, do.	Slightly injured; fall of roof.
4	Thomas McCra, . .	Driver, ...	18	Holden, ...	Lackawanna twp., do.	Left leg fractured; caught between car and door frame.
6	Thomas Smith, . .	Laborer, .	28	Mount Pleasant, ...	Scranton city, do.	Slightly injured; fall of top coal.
9	Thomas Vanston, .	Miner, ...	40	Do. do.	Do. do.	Chest slightly injured; fall of roof.
10	John Campbell, . .	Miner, ...	38	Bridge, ...	Do. do.	Face and arms burned slightly; explosion of gas.
12	George Saunders, .	Miner, ...	30	Bellevue slope, ...	Lackawanna twp., do.	Both slightly injured; fall of roof.
12	Evan Williams, . .	Laborer, . . .	20	Do. do.	Do. do.	
13	William Jenkins, .	Miner, ...	24	Marvine, ...	Scranton city, do.	Injured slightly; fall of coal.
18	Timothy Moran, . .	Miner, ...	45	Bellevue slope, ...	Lackawanna twp., do.	Bruised about body; fall of rock.
23	David Lewis, . . .	Miner, ...	. .	Coal Brook, ...	Carbondale city, do.	Skull fractured; head hit by mine rail while in the act of putting a car on the track.
23	Patrick Green, . . .	Driver, ...	16	Mount Pleasant, ...	Scranton city, do.	Slightly injured; jumped on empty trip and fell under them.
24	Mike McGinty, . .	Miner, ...	29	Eddy Creek, ...	Olyphant borough, do.	Face and hands slightly burned; explosion of gas.
25	Thomas Gilgallon,	Driver, ...	15	Sloan, ...	Lackawanna twp., do.	Slightly injured; mule knocked him down and cars run over him.
25	John Lynch, ...	Miner, ...	30	Do.	Do. do.	Injured slightly; premature blast.
26	Peter Rohnan, . . .	Driver, ...	16	Pierce, ...	Archbald borough, do.	Wrist broken; was riding on car and fell in front.
26	Patrick Highland, .	Culm man, . .	60	Erie, ...	Glenwood borough, do.	Seriously injured by run away trip of loaded cars on slope in mines.
29	Thomas Finnerty, .	Miner, ...	38	Eaton, ...	Archbald borough, do.	Leg fractured; fall of six-inch coal.
29	Thomas Walsh, . .	Miner, ...	23	Powderly, ...	Carbondale city, do.	Slightly injured; fall of roof.
30	William Rawling, .	Driver, ...	16	Erie, ...	Glenwood borough, do.	Injured; squeezed between car and pillar.
30	John Jones, ...	Miner, ...	46	Shaft No. 5, Penn'a. Coal Co., . . .	Dunmore borough, do.	Thigh fractured; hit by coal from blast.
30	Michael Bourk, . .	Driver, ...	17	Manville, ...	Scranton city, do.	Right leg fractured; run over by mine car.
31	John P. Lewis, . .	Timberman, .	65	Sloan, ...	Lackawanna twp., do.	Slightly injured on back; fall of boney coal.
April 5	James McKean, . .	Door-boy, . .	14	Taylor, ...	Do. do.	Injured slightly; fell under cars in mine.
5	Thomas Lewis, . .	Door-boy, . .	14	Marvine, ...	Scranton city, do.	Eye badly burned; a lamp on another boy's head hit his eye.
7	James Hickey, . . .	Head man, . .	20	Von Storch, ...	Do. do.	Slightly injured; foot came in contact with sheve bolts.
13	Michael Cusick, . .	Miner, ...	48	Jermyn, No. 4, ...	Dickson city boro., do.	Injured on head; fall of roof.
15	James Brace, . . .	Miner, ...	32	Archbald, ...	Lackawanna twp., do.	Slightly injured; fall of boney coal.
17	John Owens, ...	Miner, ...	32	Capouse, ...	Scranton city, do.	Injured slightly; fall of a piece of loose coal.

April	19	John Mermack, . .	Miner, ...	35	Jermyn, No. 4, ...	Dickson city boro., Lackaw'a.,	Seriously injured about hips and body; fall of rock bell.
	23	Thomas Lavin, . .	Miner, ...	24	Eddy Creek, ...	Olyphant borough, do.	Foot slightly injured; drove a pick into it.
	27	Stephen Riber, . .	Miner, ...	60	Spencers', ...	Dunmore borough, do.	Slightly burned by an explosion of powder.
	27	James Coogan, . .	Timberman, .	35	Keystone, ...	Glenwood borough, do.	Shoulder blade fractured; hit by trip of cars on plane.
	28	Michael Fox, ...	Miner, ...		Coal Brook, ...	Carbondale city, do.	Two fingers cut off; fall of roof.
	30	Ed. McAndrew, . .	Runner, . . .	19	Fair Lawn, ...	Scranton city, do.	Foot slightly injured; fall of rock on slope.
May	1	John Williams, . .	Rockman, . .	28	Holden, ...	Lackawanna twp., do.	Slightly injured on shoulder and foot; fall of rock.
	1	John Foster, ...	Laborer, . . .	18	Pancoast, ...	Dickson city boro., do.	Right leg fractured; fall of rock.
	4	Anth'y McGuinness,	Miner, ...	23	Grassey Island, G. I. C. Co., . . .	Winton borough, do.	Leg fractured; fall of roof.
	6	William Davis, . . .	Miner, ...	50	Brisbin, ...	Scranton city, do.	Slightly injured; Wm. Muir fell on him when he got killed.
	7	William Wright, . .	Headman, . .	21	Bellevue shaft, ...	Lackawanna twp., do.	Foot slightly injured; caught under dump rail head of shaft.
	15	John McHugh, . . .	Miner, ...	40	Shaft No. 1, Penn'a. Coal Co., . . .	Dunmore, do.	Ankle sprained; hoisting bucket tipped and caught it.
	15	Timothy Murray, .	Laborer, . . .	25	Hyde Park, ...	Scranton city, do.	Slightly injured; fall of top coal.
	18	John Buckingham,	Door-boy, . .	15	Erie, ...	Glenwood borough, do.	Ankle sprained; caught between bumpers of cars.
	19	Jacob Miller, . . .	Laborer, . . .	51	Mount Pleasant, ...	Scranton city, do.	Slightly injured by a prop falling on him.
	24	William Cascoe, . .	Miner, ...	40	Pyne, ...	Lackawanna twp., do.	Right leg fractured; fall of top coal.
	25	Thomas Walsh, Jr.,	Runner, . . .	17	Manville, ...	Scranton city, do.	Slightly bruised; caught between loaded cars.
	25	Charles Saxon, . . .	Laborer, . . .	30	Do.	Do. do.	Injured slightly on back; fall of roof.
	25	Thomas Asbury, . .	Driver, ...	16	Capouse, ...	Do. do.	Slightly injured; fell off mine cars.
	26	Asa Daley, ...	Culm driver, .	16½	Archbald, ...	Lackawanna twp., do.	Ankle severely bruised; foot caught between track and guard rail.
	26	John Pbillips, . . .	Laborer, . . .	35	Holden, ...	Do. do.	Injured; fall of roof.
	27	Martin Larkin, . .	Laborer, . . .	22	Dickson, ...	Scranton city, do.	Rib fractured; hit by piece of coal from blast.
	28	Patrick Henning, .	Laborer, . . .	20	Edgerton, ...	Archbald borough, do.	Both these men were slightly injured by fall of roof; were preparing to stand timbers when roof fell.
	28	Joseph White, . . .	Miner, ...	32	Do.	Do. do.	
	28	Daniel Clark, . . .	Driver, ...	15	Eddy Creek, ...	Olyphant borough, do.	Slightly injured; fell off mule coming out of barn.
June	3	David Thomas, . .	Driver, ...	16	Marvine, ...	Scranton city, do.	Three fingers badly jammed; caught between cars.
	4	John Wright, . . .	Miner, ...	45	Eaton, ...	Archbald borough, do.	Slightly injured; fall of six-inch coal.
	5	James Keegan, . .	Miner, ...	56	Grassey Island, Del. and Hud., . .	Olyphant borough, do.	Slightly injured; hit by coal from premature blast.
	5	Isaac Stone, ...	Miner, ...	33	Taylor, ...	Lackawanna twp., do.	Injured on back and hand; fall of coal.
	5	Edward Murphy, .	Miner, ...	35	Leggett's Creek, ...	Scranton city, do.	Burned on side and right arm; explosion of powder in keg.
	5	John T. Morgan, .	Miner, ...	58	Cayuga, ...	Do. do.	Slightly injured about body; fall of top coal.
	11	Bern'd Weisberger,	Laborer, . . .	25	Capouse, ...	Do. do.	Slightly injured on fingers; caught by cars.
	12	Isaac Benjamin, Jr.,	Laborer. . . .	19	Bellevue shaft, ...	Lackawanna twp., do.	Seriously injured by runaway trip on slope inside.
	12	William P. Thomas,	Footman, . . .	19	Do. do.	Do. do.	Slightly injured by same runaway.
	15	John Mitchell, . . .	Miner, ...	52	Marvine, ...	Scranton city, do.	Collar bone broken; fell between empty cars.
	16	Joseph Twees, . . .	Miner, ...	28	Pancoast, ...	Dickson city boro., do.	Burned by powder cartridge while handling it.
	17	John Lowrey, . . .	Slope footman,	22	Dickson, ...	Scranton city, do.	These two men were slightly injured by a runaway trip on slope; the drawhead of one car pulled out.
	17	James Mullen, . . .	Runner, . . .	20	Do.	Do. do.	
	17	John Mulhearne, .	Driver, ...	18	Do.	Do. do.	Leg fractured from same cause.
	18	Reese Lloyd, ...	Miner, ...	56	Central, ...	Do. do.	Slightly injured; premature blast.
	21	Jethro Richards, .	Miner, ...	35	Holden, ...	Lackawanna twp., do.	Slightly injured; premature blast.
	22	John Jermyn, . . .	Miner, ...	44	Von Storch, ...	Scranton city, do.	Shoulder blade fractured; fall of rock.
	23	John Campbell, . .	Driver, ...	16	Capouse, ...	Do. do.	Thumb cut off; caught between two cars.
	23	Anthony Gallagher,	Laborer, . . .	28	Gypsey Grove, ...	Dunmore borough, do.	Right leg fractured; fall of boney coal.
July	1	Peter Malia, ...	Miner, ...	37	Green Ridge, ...	Do. do.	Injured on back; hit by piece of coal from blast.
	2	Samuel Shevets, . .	Laborer, . . .	19	Simpson, ...	Fell township, do.	Leg fractured; fall of roof.
	7	Michael Kadane, .	Slate-picker,	35	Jermyn, No. 2, ...	Jermyn borough, do.	Fourth toe of foot taken off; caught in pony rolls.

TABLE No. 5—List of non-fatal accidents, &c.,—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location--County.	Nature and Cause of Accident.
July 8	Thomas Haddock,	Miner,	22	Archbald,	Lackawanna twp., Lackaw'a.,	Drill driven through fleshy part of thigh; powder ignited while in the act of tamping hole.
8	Matthew Simpson,	Slate-picker,	13	Coal Brook breaker,	Carbondale city, do.	Jaw bone broken; fell into one of the coal pockets.
14	Richard Williams,	Slate-picker,	12	Pyne,	Lackawanna twp., do.	Injured; fell from steps to lump coal track, 20 feet.
16	George Fanning,	Miner,	35	Bridge,	Scranton city, do.	Hip dislocated; fall of coal.
16	Martin Ready,	Miner,	40	White Oak,	Archbald borough, do.	Instep badly bruised; a piece of coal rolled on it.
19	Peter Dennebaum,	Runner,	20	Capouse,	Scranton city, do.	Finger slightly injured; caught between car and roof.
21	John Mullen,	Driver,	17	Cayuga,	Do. do.	Slightly injured; kicked by a mule.
22	Bryan Mahon,	Carpenter,	29	Eddy Creek,	Olyphant borough, do.	These three men were slightly injured by a runaway trip of cars.
22	Patr'k McNamarra,	Laborer,	55	Do.	Do. do.	
22	Stephen Finnegan,	Runner,	16	Do.	Do. do.	
23	John Orgill,	Driver,	17	Marvine,	Scranton city, do.	Ankle badly sprained; foot caught by mine car.
28	John McDermott,	Driver,	16	Eaton,	Archbald borough, do.	Hip slightly injured; caught between door and mine car.
29	James Morris,	Miner,	26	Green Ridge,	Dunmore borough, do.	Right arm and ribs fractured; hit by coal from blast.
31	John Fagan,	Laborer,	58	Jermyn, No. 4,	Dickson city boro., do.	Hit over left eye by piece of coal from blast.
Aug. 6	Charles Engle,	Slate-picker,	14	Manville,	Scranton city, do.	Leg fractured above knee; caught in breaker machinery.
6	Henry Horton,	Driver,	14	Jermyn, No. 4.	Dickson city boro., do.	Leg fractured in two places and collar bone broken; kicked by mule on culm dump.
7	George Jenkins,	Miner,	48	Hyde Park,	Scranton city, do.	Slightly injured; prop fell on him.
10	David Williams,	Laborer,	21	Archbald,	Lackawanna twp., do.	Seriously injured; fall of top coal.
10	Matis Rush,	Miner,	30	Richmond,	Scranton city, do.	Bone of ankle fractured; fall of coal.
10	Edward Dean,	Miner,	35	Edgerton,	Archbald borough, do.	Leg fractured; fall of coal.
14	Miles Dorrin,	Driver,	16	Taylor,	Lackawanna twp., do.	Slightly injured; fall of roof.
16	John Cardinally,	Miner,	30	Meadow Brook,	Scranton city, do.	Leg fractured below knee; fall of top coal.
24	Thomas Gibbons,	Laborer,	28	Holden,	Lackawanna twp., do.	Ankle slightly injured; fall of boney coal.
25	John Carbett,	Miner.	35	Meadow Brook,	Scranton city, do.	Slightly injured; fall of top coal.
27	William Fernon,	Foot tender,	20	Pierce,	Archbald borough, do.	Slightly injured; runaway trip of cars on plane.
27	Frank Heffron,	Miner,	35	Capouse,	Scranton city, do.	Slightly injured; fall of roof.
30	John Navin,	Laborer,	26	Fair Lawn,	Do. do.	Burned badly; explosion of gas.
Sept. 3	Thomas Hanahan,	Outside driver,	14	Gypsey Grove,	Dunmore borough, do.	Was riding mule to barn; fell off and broke his arm.
4	Michael McNally,	Laborer,	60	Capouse,	Scranton city, do.	Seriously injured; bell of rock fell on him.
6	Daniel Gammon,	Driver,	16	Mount Pleasant,	Do. do.	Leg fractured; caught by car jumping track.
6	Timothy Carroll,	Miner,	58	Hyde Park,	Do. do.	Leg and four ribs fractured; fall of roof.

Sept.	9	John Hickie,	Laborer,	33	Dickson,	Scranton city, Lackawanna,	Slightly injured; fall of roof.
	10	Tom. G. Willshire,	Miner,	35	Oxford,	Do. do.	Injured slightly; hit by flying coal from blast.
	13	Marvin Myers,	Miner,	60	White Oak,	Archbald borough, do.	Slightly injured; cross timber fell on him.
	15	John Garlech,	Laborer,	22	Mount Pleasant,	Scranton city, do.	Seriously injured; fall of bell-shaped rock.
	15	Francis Hungo,	Laborer,	35	Green Ridge,	Dunmore borough, do.	Leg fractured; hit by flying coal from blast.
	25	P. E. McDonnell,	Miner,	57	Shaft No. 2, Penn'a. Coal Co.,	Do. do.	Small bone of ankle broken; fall of coal from face.
	30	Alex. Hoover,	Miner,	38	Pyne,	Lackawanna twp., do.	Collar bone and two ribs broken; fall of coal.
Oct.	1	John D. Edwards,	Miner,	40	Oxford,	Scranton city, do.	Slightly injured; shot missed fire, went back and got caught.
	2	Patrick Carden,	Miner,	50	Midland tunnel,	Fell township, do.	Slightly injured; fall of roof.
	4	William Morgan,	Driver,	15	Capouse,	Scranton city, do.	Injured slightly; finger caught between rail and bumper.
	6	Patrick Ruane,	Footman,	24	Green Ridge,	Dunmore borough, do.	Leg fractured; car jumped track and caught him.
	7	Andrew Knox,	Miner,	35	Spencers',	Do. do.	Slightly injured on hip; fall of roof.
	7	Edward Miller,	Driver,	17	Richmond,	Scranton city, do.	Ankle fractured; caught by carriage in shaft.
	11	Frank Gangover,	Culm dumper,	18	Holden,	Lackawanna twp., do.	Slightly injured; culm car run on his leg.
	12	Isaac Mawson,	Headman,	21	Marvine,	Scranton city, do.	Bruised badly; fell down shaft 30 feet deep.
	12	Joseph Janiski,	Miner,	36	S. V. White,	Winton borough, do.	Slightly injured; hit by car in his chamber.
	13	Michael Yansuski,	Laborer,	30	Green Ridge,	Dunmore borough, do.	Leg fractured; fall of roof.
	14	Henry Bassington,	Laborer,	34	Pancoast,	Dickson city boro., do.	Injured on back; fall of roof.
	15	Daniel Morgan,	Miner,	50	Dodge,	Lackawanna twp., do.	Foot injured; an iron rail fell on it.
	16	Robert Sewell,	Miner,	30	Marvine,	Scranton city, do.	Hip fractured; fall of coal.
	18	Martin Lally,	Miner,	25	Hyde Park,	Do. do.	Seriously injured on spine; fall of rock.
	18	Charles Kreger,	Slate-picker,	14	Mount Pleasant,	Do. do.	Foot caught in cog wheel while going to work.
	19	James Wiseley,	Miner,	32	Powderly,	Carbondale city, do.	Slightly injured on hips; fall of top coal.
	19	Michael Scott,	Driver,	16	Sloan,	Lackawanna twp., do.	Slightly injured; caught between car and prop.
	20	Peter Lynch,	Laborer,	32	Von Storch,	Scranton city, do.	Shoulder blade fractured; caught between car and prop.
	21	James Duffy,	Miner,	51	Coal Brook,	Carbondale city, do.	Arm fractured; fall of roof.
	21	David Morgan,	Footman,	17	Capouse,	Scranton city, do.	Wrist fractured; caught between two cars.
	22	John Coon,	Laborer,	53	Taylor,	Lackawanna twp., do.	Hip injured; fall of roof.
	23	John Ryan,	Runner,	18	Dodge,	Do. do.	Flesh wound on hand; hook on stretcher caught it.
	25	Mike Fugarra,	Laborer,	35	Do.	Do. do.	Back slightly injured; fall of boney coal.
	25	William Williams,	Engineer,	39	Leggett's Creek,	Scranton city, do.	Hands and face burned by an explosion of a kerosene lamp.
	27	John Jones,	Laborer,	21	Von Storch,	Do. do.	Slightly burned on hands and face; explosion of gas.
	28	William Jones,	Door-boy,	16	Sloan,	Lackawanna twp., do.	Flesh wound on leg; he fell and a car run over it.
	28	John Donnelly,	Miner,	40	Edgerton,	Archbald borough, do.	Slightly injured; hit by locomotive in mines.
	28	Frank Burns,	Driver,	17	Do.	Do. do.	Slightly injured; fall of six-inch coal.
	28	Frank Gallagher,	Miner,	40	Green Ridge,	Dunmore borough, do.	These men were all working in No. 3 vein at about 1.30 P. M. Patrick Hoban set off the gas in his chamber; there is a very large gas blower in the chamber inside of Hoban's. Hoban had a safety lamp in his chamber when the explosion took place, and he was supposed to know all about fire-damp; mine was examined in morning and found to be in good condition; fan running steady up to time of the explosion; testimony shows doors and everything else all right.
	28	James Roche,	Miner,	35			
	28	Timothy Rogers,	Laborer,	35			
	28	John Egan,	Company man,	60			
	28	Patrick Munley,	Company man,	50			
	28	John Duffy,	Miner,	40			
	28	James Bawn,	Miner,	40			
	29	James Moran,	Drivers' help'r	16	Sloan,	Lackawanna twp., do.	Slightly injured; kicked by mule in stomach.

TABLE No. 5—List of non-fatal accidents, &c.,—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location--County.	Nature and Cause of Accident.
Nov. 2	Thomas Baker, . .	Pumpman, . .	30	Manville, ...	Scranton city, Lackawanna, .	Leg fractured; moving pump it upset; caught his leg.
2	John Jordan, . . .	Driver, ...	15	Sloan, ...	Lackawanna twp., do.	Slightly injured; kicked by mule on head.
4	Frank Kelly, ...	Footman, . .	52	Meadow Brook, ...	Scranton city, do.	Foot badly crushed; caught between carriage and roof.
5	James Jenkens, . .	Miner, ...	25	Central, ...	Do. do.	Hip dislocated; fall of coal.
5	Michael Manion, .	Carpenter, . .	33	Von Storch, ...	Do. do.	Slightly injured; kicked by mule on side.
9	Michael Langan, .	Miner, ...	30	Coal Brook, ...	Carbondale city, do.	Lost fore-finger; hit by coal from blast.
9	James Brady, . . .	Miner, ...	35	White Oak, ...	Archbald borough, do.	Three ribs fractured and otherwise injured; fall of top coal.
9	Edward Burk, . . .	Culm man, . .	60	Powderly, ...	Carbondale city, do.	Left leg fractured; a car rolled over on his leg.
11	John Cawley, . . .	Footman, . .	25	Capouse, ...	Scranton city, do.	Collar bone fractured; caught between two cars.
16	Thomas Jehu, . . .	Miner, ...	36	Von Storch, ...	Do. do.	Large gash on head; fall of coal and roof.
17	John Davis, ...	Miner, ...	33	Oxford, ...	Do. do.	Slightly injured; hit by coal from blast.
17	Thomas Reese, . .	Miner, ...	28	Do.	Do. do.	Right leg fractured; hit by coal from same blast.
20	Peter Strome, . . .	Laborer, . . .	32	Edgerton, ...	Archbald borough, do.	Leg slightly hurt; fall of six-inch coal.
22	David McDonagh, .	Miner, ...	65	Gypsey Grove, ...	Dunmore borough, do.	Slightly injured; premature blast.
22	William McDonagh,	Miner, ...	21	Do. do.	Do. do.	Leg fractured; hit by coal from same blast.
24	Ally Hartman, . . .	Pumpman, . .	21	Grassey Island, Del. and Hud., . .	Olyphant borough, do.	Leg fractured; fell over brake in engine house.
26	Everett Campbell,	Outside driver,	20	National, ...	Scranton city, do.	Injured slightly; fell under car on rock dump.
30	David Oweus, . . .	Driver, ...	16	Pyne, ...	Lackawanna twp., do.	Slightly injured; fell in front of car in mines.
Dec. 1	John Lloyd, ...	Driver, ...	16	Bellevue shaft, ...	Do. do.	Bruised about head and hands; fall of roof.
2	John Tansley, . . .	Miner, ...	40	Green Ridge, ...	Dunmore borough, do.	Bruised about head and body; premature explosion of blast.
6	John Langan, . . .	Driver, ...	14	Midland tunnel, ...	Fell township, do.	Head and face slightly hurt; hit by mine rail.
11	David Hengoed, . .	Miner, ...	40	Mount Pleasant, ...	Scranton city, do.	Hip dislocated; fall of top coal.
13	David W. Davis, . .	Fire-boss, . .	65	Bellevue shaft, ...	Lackawanna twp., do.	Both these men were burned by an explosion of gas; Davis went to remove the gas; he thought it was removed; then lit a match, when the gas exploded.
13	John Mahon, ...	Miner, ...	28	Do. do.	Do. do.	
13	Simon Betrash, . .	Laborer, . . .	33	Green Ridge, ...	Dunmore borough, do.	Leg fractured; fall of roof.
13	William W. Davis, .	Miner, ...	36	Capouse, ...	Scranton city, do.	Leg fractured, fall of roof.
16	Patrick Calpin, . .	Outside driver,	16	Dodge, ...	Lackawanna twp., do.	Arm fractured; fell off mule.
20	William Bohen, . .	Door-boy, . .	15	Taylor, ...	Do. do.	Slightly injured; squeezed between car and door.

Dec.	20	John J. O'Hara, . .	Driver boss, .	34	Meadow Brook, ...	Scranton city,	Lackawanna, .	Back broken.
	20	John Nee, ...	Laborer, . . .	28	Do. do.	Do.	do.	Back broken.
	20	Anth'y Dougherty,	Culm man, . .	50	Do. do.	Do.	do.	Leg and arm broken.
	20	M. O'Gallagher, .	Culm man, . .	52	Do. do.	Do.	do.	Ankle slightly hurt.
								All these men were caught under a fall of roof, which was caused by expansion and contraction on account of fire in mine.
	21	John Gilgallon, . .	Runner, . . .	17	Pancoast, ...	Dickson city boro.,	do.	Collar bone broken; knocked by car against prop.
	21	James Caffrey, . .	Miner, ...	28	Eaton, ...	Archbald borough,	do.	Knee dislocated; knocked down by mine car.
	28	Chris. Evans, . . .	Driver, ...	16	Taylor, ...	Lackawanna twp.,	do.	One finger cut off and others mashed; caught in stretcher.
	31	Benjamin Johnston,	Miner, ...	35	S. V. White, ...	Winton borough,	do.	Leg broken and otherwise injured; fall of roof.

There were 42 persons had their legs fractured.
There were 8 persons had their arms fractured.
There were 24 persons otherwise seriously injured.
There were 143 persons slightly injured.

Total, 217

There was one accident for every 32,776 tons of coal mined.

TABLE No. 6—Showing the grand total of employés, horses, mules, engines, pumps, tons of coal shipped, fatal and non-fatal accidents in the First Anthra

NAME OF COUNTY WHERE COAL WAS MINED IN FIRST DISTRICT.	Total number of employees.	Total number of men employed.	Total number of boys employed.	Total number employed in mines.	Total number employed outside.	Total number of kegs of powder used in mines.	Total number of tons of coal mined
Lackawanna County.							
Delaware, Lackawanna and Western Railroad Co.,	5,609	3,942	1,667	3,625	1,984	61,560	2,223,368.11
Delaware and Hudson Canal Company,	4,778	3,317	1,461	3,887	1,391	53,854	1,951,925.07
Pennsylvania Coal Company,	734	552	182	554	180	14,014	298,095.00
Miscellaneous coal companies,	7,198	4,923	2,275	4,978	2,220	89,266	2,505,994.19
Local coal sale mines,	220	204	16	170	50	1,280	35,840.00
Total,	18,539	12,938	5,601	12,714	5,825	219,974	7,015,223.17
Susquehanna County.							
Forest City mines—Hillside Coal & Iron Company,	290	231	59	215	75	4,167	97,071.19
Grand total,	18,829	13,169	5,660	12,929	5,900	224,141	7,112,295.16

NOTE.—The Manville breaker is used by the Delaware, Lackawanna and Western Railroad Company and Delaware and Hudson Canal Company alternate months, which is the cause of one half breaker being marked to each company on this sheet.

boilers, fans, furnaces, kegs of powder used, number tons of coal mined, number of cite Mine District for the year ending December 31, A. D. 1886.

Total number of tons of coal shipped.	Total number of deaths.	Total number of accidents.	Total number of horses and mules engaged about mines.	Total number of engines used for hoisting, pumping, running breakers, &c.	Total number of boilers.	Total number of pumps.	Total number of locomotives used for hauling coal about mines.	Total number of ventilating fans.	Total number of ventilating furnaces.	Number of tons of coal mined for each person employed in mines.	Number of tons of coal mined for each person employed.	Number of tons of coal mined for each keg of powder used.	Capacity of breakers per day of ten hours.	Total number of breakers for preparation of coal.
2,175,190.01	14	70	857	186	285	85	5	23	. . . .	613⅞	396½	36	15,450	16½
1,812,256.11	19	48	534	97	154	33	2	13	2	576½	413½	34½	9,485	12½
295,095.00	2	11	64	21	24	7	1	2	1	538	406	21½	1,275	2
2,356,169.02	23	87	758	181	236	63	11	24	8	503½	348	26	17,976	27
. . . . .	. . .	. . .	46	8	7	5	. . .	. . .	2					
6,639,078.14	58	216	2,259	493	706	193	19	62	13	. . . .	. . . .	32	44,186	58
92,148.17	2	1	35	17	9	6	1	2	. . . .	451½	335	23⅓	700	1
6,731,227.11	60	217	2,294	510	715	199	20	64	13	. . . .	. . . .	. . . .	44,886	59

Second Anthracite Coal District.

Synopsis of the report of Inspector H. McDonald for the year ending December 31, 1886. Compiled by the Bureau:

Number of mines in district,	57
Number of mines operated from which statistics were gathered,	43
Average working time in days for fifty-seven mines,	132
Average working time in days for forty-three mines,	175
Persons employed inside of mines,	8,907
Persons employed outside of mines,	4,300
Total number of persons employed,	13,207
Number of fatal accidents,	33
Number of non-fatal accidents,	137
Persons employed per fatal accident,	395
Persons employed per non-fatal accident,	95
Number of tons of coal mined,	4,233,456
Number of tons of coal shipped,	4,117,235
Number of tons increased production over year 1885,	98,316
Number of tons of coal mined per fatal accident,	128,286
Number of tons of coal mined per non-fatal accident.	30,901
Number of kegs of powder used in mines,	145,086
Number of steam boilers in use,	647
Number of horses and mules in service,	1,451
Number of widows in 1885, 5; in 1886,	16
Number of orphans in 1885, 16; in 1886,	38

Forty-two (42) mine bosses received certificates of service, and 18 received certificates of qualification. There was an increase of 25 fatal and 116 non-fatal accidents over the number reported in 1885.

SECOND ANTHRACITE DISTRICT.

Office of Inspector of Mines,
Second District Anthracite Coal Fields,
Pittston, Pa., *February 19, 1887.*

Hon. J. Simpson Africa, *Secretary of Internal Affairs:*

Sir: In accordance with article II, section 7, of the act of June 30, 1885, providing for the health and safety of persons employed in and about the anthracite coal mines, I have the honor of presenting my report for the year 1886.

In the month of September, 1886, Mr. Blewitt, inspector of First district, and myself met to decide on a division of district No. 1 to be transferred to district No. 2, to better equalize the labor of the inspectors of districts No. 1 and No. 2. The following line of division was decided upon: All of Old Forge township, Lackawanna county, and that portion of Lackawanna township south-east of the Lackawanna river, in Lackawanna county, was added to the Second anthracite district. The above was submitted to the board of examiners and the court of Luzerne county, and approved by them September 6, 1886.

The amount of coal mined in 1886 was 4,233,456 tons, an increase of 98,316 tons over the amount mined in 1885, but a decrease of 135,734 tons in the same portion of the district that was reported for the Second district in 1885.

The number of fatal accidents was (33) thirty-three, leaving (16) sixteen widows and (38) thirty-eight orphans. The number of non-fatal accidents was (137) one hundred and thirty-seven, but only (96) ninety-six of which were classed as being serious. The report contains tables of fatal and non-fatal accidents, likewise other tables thought to be useful for information.

H. McDONALD,
Inspector of Mines, Second District.

Total Amount of Coal Mined during the Year 1886.

Pennsylvania Coal Company,	1,059,613.00
Delaware and Hudson Canal Company,	394,411.00
Lehigh Valley Coal Company,	837,366.15
Delaware, Lackawanna and Western Railroad Company,	244,816.00
Butler Coal Company,	176,062.16
Wyoming Valley Coal Company,	210,700.00
Miscellaneous coal companies,	1,310,486.16
Total of all coal companies,	4,233,456.07

NAME OF COMPANIES.	Number of lives lost.	Coal mined per life lost—tons.
Pennsylvania Coal Company,	5	211,922
Delaware and Hudson Canal Company,	3	131,470
Lehigh Valley Coal Company,	6	139,561
Delaware, Lackawanna and Western Railroad Company,	3	81,605
Butler Coal Company,	4	44,015
Wyoming Valley Coal Company,	3	70,223
Miscellaneous coal companies,	8	163,810
Total,	32	132,295

There was one person killed in sinking shaft not producing coal which is not included in the above table.

Classification of Fatal and Serious Non-fatal Accidents.

CAUSES OF ACCIDENTS.	Killed.	Seriously injured.
By explosions of carbureted hydrogen gas,	1	15
By falls of roof and coal,	17	36
By falling down shafts,	3	2
By cars underground,	3	21
By explosions of powder and blasts,	4	9
Miscellaneous causes inside,	1	7
Miscellaneous causes outside,	4	6
Total,	33	96

Number of widows, 16; orphans, 38.

NAME OF COMPANIES.	Number of persons employed.	Average number of days in operation.	Tons of coal mined per day.
Pennsylvania Coal Company,	3,455	193.06	5,498
Delaware and Hudson Canal Company,	999	193.50	2,038
Lehigh Valley Coal Company,	1,920	192.84	4,342
Delaware, Lackawanna and Western Railroad Company,	749	197.95	1,236
Butler Coal Company,	594	193.45	910
Wyoming Valley Coal Company,	595	264.65	796
Miscellaneous coal companies,	4,715	162.60	7,985
Total,	13,027	199.72	21,196

Condition of the Mines.

The year 1886 has been more fortunate than the preceding year for fatal accidents, yet I must say the fatality is greater than it ought to be. By referring to the fatal list of accidents it will be seen that one half of the loss of life was due to falls of roof and coal—a danger surrounding the miner at all times when at his daily employment. A great number of the fatal accidents recorded could be avoided by the victims themselves by using more care and less hurry to accomplish their day's work.

The new mine law is having its good effect, as I find that much of the loose manner in which some of the collieries were conducted before is being remedied, and a better system adopted which will have a tendency to reduce the number of accidents in the future.

The ventilation has been improved considerably since my last report in nearly all the mines of this district.

New Collieries Started to Ship Coal in 1886.

The Keystone Coal Company started a new colliery about one mile and a quarter north-east of Mill Creek station, in Plains township, Luzerne county, Pa. There are three openings to this colliery, one a slope and two drifts. The slope is sunk on what is supposed to be the bottom split of the Baltine seam to the depth of 280 feet on a grade of 10 degrees with a sectional area of 77 feet. No. 1 drift was opened in the mountain 300 yards east of the slope on the Marcy vein, sectional area, 80 feet. No. 2 drift was opened on the same seam as No. 1 drift, a distance of 700 yards south of the slope, with a sectional area of 80 feet. There was an opening driven from the bottom of the slope with a sectional area of 70 feet, on which a fan, 16 feet in diameter, was placed to ventilate the slope; likewise two openings, one on each side of slope, were driven to the outside from the bottom of the slope for second openings for the men to come out. The drifts are ventilated

by natural ventilation by driving openings to the surface. A new breaker was erected to prepare the coal from these openings. It is a substantial building with first-class machinery. All the dangerous parts are fenced and boxed off. The breaker started to prepare coal in the month of November, 1886.

The Pennsylvania Coal Company built a new breaker at Port Griffith, in Jenkins township, to prepare the coal from shafts Nos. 4 and 7, slope No. 4 and tunnel No. 1. It is a large breaker and has the latest improved machinery. It has a capacity for cleaning a large amount of coal per day. The breaker started up in November, 1886.

Colliery Improvements During 1886.

The improvements made in the different collieries of this district have been somewhat more extensive this year than last. Some of the collieries are old ones, and have been worked very extensively; therefore, it has caused the companies to sink to lower veins to get their collieries in condition to maintain the present shipments of coal from them.

Pennsylvania Coal Company.

This company sunk a new shaft, in Old Forge township, Lackawanna county, to the bottom of the Powder Mill vein, a depth of 145 feet, sectional area, 384 feet. It is used to hoist coal, which is taken to the Old Forge breaker for preparation for market. A new inside plane was driven at the bottom of the shaft, 125 feet in length, with a sectional area of 208 feet, and a grade of 12½ degrees.

In No. 10 shaft, a new slope was sunk (600) six hundred feet, and driven up a new plane, a distance of (150) one hundred and fifty feet, to maintain the present out-put of coal

No. 14 breaker, situated in Jenkins township, was burned down on the evening of November 18, 1886, with all the surrounding buildings. The breaker was a new one, and started up on August 7, 1886. The fire is supposed to have started in the boiler-room. The night engineer had occasion to go to look after a pump some distance from the boiler-house; when he came back the fire had got such headway that he could not put it out. One of the boilers had a defective sheet next the fire, which sprung a leak, throwing the fire out of the furnace door and setting fire to the building.

Delaware and Hudson Canal Company.

At the Laurel Run colliery, a tunnel was driven from the bottom split of the Baltimore vein to the top split, a distance of 110 feet, to be used to transport coal; sectional area, 70 feet. They are now driving their second opening for the same purpose.

Lehigh Valley Coal Company.

At the Mineral Spring colliery, a tunnel was driven from the bottom

split of the Baltimore vein to top split, length 90 feet, to be used for transporting coal.

Butler Coal Company.

At the Mosier colliery, a new shaft was sunk to the Red Ash seam, a distance of 375 feet, sectional area, 120 feet, to be used as a second opening to the Mosier shaft.

Waddell & Walters.

At the Bennett colliery they have extended the old slope in the top split of the Baltimore vein 520 feet.

At the Raubville colliery, the second opening has been completed a distance of 2,000 feet, sectional area, 60 feet, to a drift on the mountain. They have placed a new fan, 16 feet in diameter, in position in the opening, with direct gearing working speed of 45 revolutions per minute. Amount of air exhaused, 50,000 cubic feet per minute. A new Pale pump was put in with 8-foot stroke, 14-inch working barrel, also three new steel boilers, 40 45 feet, and a pair of first-motion engines with conical drum on their hoisting shaft.

Clear Spring Coal Company.

At the Clear Spring colliery, a new inside slope was sunk in the Pittston vein, a distance of 500 feet, sectional area, 126 feet, with a grade of 10 degrees.

Elliott, McClure & Co.

The Sibly breaker of Elliott & McClure was burned down on the morning of February 6, 1886. They immediately rebuilt, and started their new breaker on July 20, 1886.

State Line and Sullivan Railroad Company.

At the Bernice colliery, Sullivan county, a new shaft was sunk to the vein now working, a distance of 69 feet, sectional area, 120 feet. They are going to place a fan on this shaft for ventilation to take the place of a furnace which does not give satisfaction. A tunnel was driven 604 feet from the bottom seam to top seam for transporting coal.

W. G. Payne & Co.

At the East Boston colliery, a tunnel was driven from the Red Ash to the Ross seam, a distance of 457 feet, sectional area, 84 feet. This tunnel opens a large territory of good coal for this company.

Wyoming Valley Coal Company.

The Forty Fort breaker of this company was burned down in 1885. The coal was taken to their Harry E breaker, about one mile distant, until the breaker could be rebuilt, which work was started immediately and finished July 25, 1886.

A list of the Mine Bosses who received Certificates of Service in the Second Anthracite District in 1886, under Article VIII of the Anthracite Mine Law of June 30, 1885.

Name.	*Post-Office Address.*
William Abbott,	Pittston, Luzerne county, Pa.
Adam Harkness,	Do. do.
Patrick Kelley,	Kingston, do.
William W. Reese,	Parsons, do.
Thomas R. Thomas,	Do. do.
Evan A. Price,	Plains, do.
Henry McMillan,	Avoca, do.
Thomas Lauther,	Wyoming, do.
Michael J. Langan,	Pittston, do.
William D. Owens,	Plains, do.
Thomas D. Lewis,	Do. do.
Robert Hislop,	Do. do.
John F. O'Harra,	Avoca, do.
James Martin,	Mill Creek, do.
Alexander Thompson,	Pittston, do.
Joseph J. Jones,	Plains, do.
James A. Bryden,	Pittston, do.
Henry Chapman,	Avoca, do.
Ebenezer Lloyd,	Wyoming, do.
William W. Mucklow,	Avoca, do.
Philip McCabe,	Forty Fort, do.
Robert McCutchen,	Miners' Mills, do.
Elias Hughes,	Pittston, do.
John M. Lewis,	Do. do.
William O'Niel,	Do. do.
Samuel Bennett,	Do. do.
James O'Neil,	Do. do.
James A. Ross,	Bernice, Sullivan county, Pa.
James Watson,	Pittston, Luzerne county, Pa.
John M. Robertson,	Moosic, do.
John C. Reily,	Wilkes-Barre, do.
John Allen,	Avoca, do.
William Reid,	Pittston, do.
Henry Jopling,	Do. do.
Michael M. Welsh,	Avoca, do.
Benjamin Harding,	Pittston, do.
John Parry,	Luzerne boro., do.
George Facrick,	Wilkes-Barre, do.
Frank P. Rease,	Pittston, do.
Michael J. Lynott,	Do. do.
Richard Appleby,	Wyoming, do.
Thomas Smiles,	Pittston, do.

A list of Applicants who received Certificates of Qualification in the Second Anthracite District in 1886, under Article VIII of the Anthracite Mine Law of June 30, 1885.

Name.	*Post-Office Address.*
Edward F. Reese,	Miners' Mills, Luzerne county, Pa.
John F. Reynolds,	Pittston, do.
Jenkins J. Jones,	Forty Fort, do.
Thomas Waddell, Jr.,	Kingston, do.
Thomas Langan,	Avoca, do.
Alexander Allen,	Do. do.
John B. Clark,	Pittston, do.
Nelson Stranburg,	Parsons, do.
Robert Oliver,	Avoca, do.
Patrick Sweeny,	Pittston, do.
William Bryden,	Do. do.
Thomas M. Martin,	Do. do.
William Wilson,	Do. do.
Thomas Jordan,	Scranton, Lackawanna county, Pa.
Thomas Walker,	Inkerman, Luzerne county, Pa.
David Bell,	Pittston, do.
William Brown,	Avoca, do.
John P. Clark,	Pittston, do.

TABLE No. 1—Showing location of collieries in the Second Anthracite Mine District.

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Bernice drifts,	State Line and Sullivan Railroad Co.,	Bernice, Sullivan,	J. O. Blight,	Towanda, Bradford county.
Bennett shaft,	Waddell & Walters,	Plains township, Luzerne,	James Waddell,	Kingston, Luzerne do.
Black Diamond shaft,	Haddock & Steel,	Kingston township, Luzerne,	James B. Davis,	Plymouth, do. do.
Butler shaft and slope,	Deninney & Co.,	Pittston township, Luzerne,	F. C. Deninney, Jr.,	Pittston, do. do.
Boston slope and drift,	N. Cowen,	Jenkins township Luzerne,	M. J. Langdon,	Do. do. do.
Barnum, 2 shafts,	Pennsylvania Coal Company,	Marcy township, Luzerne,	Andrew Bryden,	Do. do. do.
Clear Spring shaft,	Clear Spring Coal Company,	West Pittston borough, Luzerne,	J. L. Cake,	Do. do. do.
Consolidated shaft and slope,	Hillside Coal Company,	Pleasant Valley borough,	W. A. May,	Scranton, Lacka., do.
Dunn shaft and slope,	Pennsylvania Anthracite Coal Company,	Lackawanna,	John Jermyn,	Do. do. do.
Elmwood shaft,	Florence Coal Company,	Pittston township, Luzerne,	Austin Moore,	Avoca, Luzerne do.
Enterprise shaft,	Andrew Langdon,	Plains township, Luzerne,	C. D. Simpson,	Scranton, Lacka., do.
East Boston shaft,	W. G. Payne & Co.,	Kingston township, Luzerne,	E. F. Payne,	Kingston, Luzerne do.
*Exeter shaft,	Lehigh Valley Coal Company,	Exeter borough, Luzerne,	Fred. Mercur,	Wilkes-Barre, Luz'ne do.
Forty Fort shaft,	Wyoming Valley Coal Company,	Kingston township, Luzerne,	J. H. Swoyer,	Do. do. do.
Fairmount shaft,	J. Rice,	Pittston borough, Luzerne,	J. Rice,	Pittston, do. do.
Hunt shaft,	Del. Lacka. and West. Railroad Company,	Wyoming, Luzerne,	B. Hughes,	Scranton, Lacka., do.
Hillman slope,	H. Baker Hillman,	Plains township, Luzerne,	H. B. Hillman,	Wilkes-Barre, Luz'ne do.
Henry shaft,	Lehigh Valley Coal Company,	Do. do.	Fred. Mercur,	Do. do. do.
Harry E. shaft and slope,	Wyoming Valley Coal Company,	Kingston township, Luzerne,	J. H. Swoyer,	Do. do. do.
Hallstead shaft,	Del. Lacka. and West. Railroad Company,	Marcy township, Luzerne,	B. Hughes,	Scranton, Lacka., do.
Heidelburg shaft and slope,	Lehigh Valley Coal Company,	Pittston township, Luzerne,	Fred. Mercur,	Wilkes-Barre, Luz'ne do.
Greenwood shaft,	Pennsylvania Anthracite Coal Company,	Lackawanna,	John Jermyn,	Scranton, Lacka., do.
Laurel Run shaft,	Delaware and Hudson Canal Company,	Parsons borough, Luzerne,	A. H. Vandling,	Do. do. do.
Laws 2 shaft,	Pennsylvania Coal Company,	Pittston township, Luzerne,	William Law,	Pittston, Luzerne do.
*Mildvale slope,	Lehigh Valley Coal Company,	Plains township, Luzerne,	Fred. Mercur,	Wilkes-Barre, Luz'ne do.
Mineral Spring slope,	Do. do.	Parsons borough, Luzerne,	Fred. Mercur,	Do. do. do.
Mill Creek shaft and slope,	Delaware and Hudson Canal Company,	Plains township, Luzerne,	A. H. Vandling,	Scranton, Lacka., do.
*Maltby shaft,	Lehigh Valley Coal Company,	Wyoming, Luzerne,	Fred. Mercur,	Wilkes-Barre, Luz'ne do.
Mosier shaft and slope,	Deninney & Co.,	Hughestown borough, Luzerne,	F. C. Deninney, Jr.,	Pittston, do. do.
Keystone slope and drift,	Keystone Coal Company,	Plains township, Luzerne,	——— Hodge,	Wilkes-Barre, do. do.
Katy-Did tunnel,	John M. Robertson,	Moosic, Lackawanna,	John M. Robertson,	Moosic, Lackawanna do.
Prospect, 2 shafts,	Lehigh Valley Coal Company,	Plains township, Luzerne,	Fred. Mercur,	Wilkes-Barre, Luz'ne do.
Pine Ridge shaft,	Delaware and Hudson Canal Company,	Do. do.	A. H. Vandling,	Scranton, Lacka., do.
†Pettibone shaft,	Del. Lacka. and West. Railroad Company,	Kingston township, Luzerne,	B. Hughes,	Do. do. do.
Raubville shaft.	Thomas Waddell,	Luzerne borough, Luzerne,	James Waddell,	Kingston, Luzerne do.
Old Forge } Shaft No. 1,	Pennsylvania Coal Company,	Old Forge township, Lackawanna,	William Law,	Pittston, do. do.
Breaker. } *Shaft No. 2,	Do. do.	Do. do. do.	Do.	Do. do. do.
} Shaft No. 9,	Do. do.	Pittston borough, Luzerne,	A. Bryden,	Do. do. do.
Breaker } Shaft No. 10,	Do. do.	Do. do.	Do.	Do. do. do.
No. 10, } Shaft No. 10, Jr.,	Do. do.	Do. do.	Do.	Do. do. do.
} Abbott slope,	Do. do.	Do. do.	Do.	Do. do. do.
Breaker } Shaft No. 1,	Do. do.	Do. do.	Do.	Do. do. do.
No. 8, } Shaft No. 8,	Do. do.	Do. do.	Do.	Do. do. do.

*Ewen Breaker,	*Shaft No. 4,	Do.	do.	Do.	do.
	Tunnel No. 1,	Do.	do.	Jenkins township,	Luzerne,
	Slope No. 4,	Do.	do.	Do.	do.
	Shaft No. 7,	Do.	do.	Do.	do.
Breaker No. 6,	Shaft No. 5,	Do.	do.	Do.	do.
	Shaft No. 6,	Do.	do.	Do.	do.
	Shaft No. 11,	Do.	do.	Do.	do.
Breaker No. 14,	Shaft No. 14,	Do.	do.	Do.	do.
	and slope,	Do.	do.	Do.	do.
Sibley shaft,		Elliott, McClure & Co.,		Old Forge township,	Lackawanna,
Schooly shaft,		N. Cowen,		Exeter borough,	Luzerne,
Twin shaft,		Deninney & Co.,		Pittston borough,	Luzerne,
Wyoming shaft and slope,		Lehigh Valley Coal Company,		Plains township,	Luzerne,
Glendale mines,		Glendale Coal Company,		Lackawanna,	
Spring Brook mines,		William E. Colbourne,		Do.	

Do.	Do.	do.
William Law,	Do.	do.
A. Bryden,	Do.	do.
William Law,	Do.	do.
Do.	Do.	do.
Do.	Do.	do.
Do.	Do.	do.
Do.	Do.	do.
Do.	Do.	do.
James C. McClure,	Scranton,	Lacka.,
M. J. Langdon,	Do.	do.
Do.	Do.	do.
Fred. Mercur,	Wilkes-Barre,	Luz'ne
F. A. Beamish,	Scranton,	Lacka.,
William E. Colbourne,	Moosic,	Lackawanna

* Not working in 1886.

† Not completed yet; no shipments.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Second Anthracite Mining District for the year ending December 31, 1886.

PENNSYLVANIA COAL COMPANY.

NAMES OF COLLIERIES.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Barnum, 2 shafts,	Marcy township, Luzerne county,	207,942	207,942	230	516	1	7	8,034	19	57	
Laws, 2 shafts,	Pittston township, do.	202,447	202,447	252	440	...	1	5,861	26	61	
Breaker No. 10, Shaft No. 9,	Pittston borough, do.	170,815	170,815	199	508	...	1				
Breaker No. 10, Shaft No. 10,	Do. do.					1	1				
Breaker No. 10, Shaft No. 10, Jr.,	Do. do.										
Breaker No. 10, Abbott's slope,	Do. do.					1	...	6,100	17	61	
Old Forge breaker, Shaft No. 1,	Old Forge township, Lackawanna county,	152,015	152,015	239	339	...	1	5,519	13	32	
Old Forge breaker, *Shaft No. 2,	Do. do.	.....	.....	...	....	...	1				
Breaker No. 8, Shaft No. 1,	Pittston borough, Luzerne county,	71,249	71,249	184	305	...	2	2,665	10	31	
Breaker No. 8, Shaft No. 8,	Do. do.	.....	.....	...	....	1					
Ewen breaker, *Shaft No. 4,	Do. do.										
Ewen breaker, *Tunnel No. 1,	Jenkins township, do.	93,853	93,853	173	441	...	1	2,487	36	50	
Ewen breaker, Slope No 4,	Do. do.										
Ewen breaker, Shaft No. 7,	Do. do.										
Breaker No. 6, Shaft No. 5,	Do. do.	.....	.....	...	....	...	2				
Breaker No. 6, Shaft No. 6,	Do. do.	108,725	108,725	184	556	...	1	3,093	15	56	
Breaker No. 6, Shaft No. 11,	Do. do.										
Shaft No. 14 and slope,	Do. do.	52,567	52,567	87	350	1	1	1,840	16	34	

DELAWARE AND HUDSON CANAL COMPANY.

Mill Creek shaft and slope,	Plains township, Luzerne county,	129,167	129,167	196	240	1	1	4,026	31	31	
Pine Ridge shaft,	Miners' Mills borough, do.	150,631	146,013	193	404	1	3	4,621	18	35	
Laurel Run slope,	Parsons borough, do.	114,609	114,609	191	355	1	3	3,457	12	43	

LEHIGH VALLEY COAL COMPANY.

Prospect, 2 shafts,	Plains township, Luzerne county,	304,430	304,286	217	668	3	11	8,679	34	88	3
Wyoming shaft,	Do. do.	159,074	151,364	183	318	. . .	15	5,561	18	54	
Henry shaft,	Do. do.	187,627	177,094	186	414	2	4	5,423	18	60	
*Maltby shaft,	Wyoming, do.	. . . . .	. . . . .	. . .	. . . .	. . .	. . .	. . . . .	20		
Mineral Spring slope,	Parsons borough, do.	76,235	71,589	175	212	1	8	2,700	11	20	
*Midvale slope,	Plains township, do.	. . . . .	. . . . .	. . .	. . . .	. . .	. . .	. . . . .	12		
*Exeter shaft,	Exeter borough, do.	. . . . .	. . . . .	. . .	. . . .	. . .	. . .	. . . . .	13		
Heidelburg shaft and slope,	Pittston township, do.	110,000	109,700	201	278	. . .	4	3,235	17	30	1

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY.

†Pettibone shaft,	Kingston township, Luzerne county,	. . . . .	. . . . .	. . .	39	1	1	. . . . .	6	7	
Hunt shaft,	Wyoming, do.	62,342	55,222	213	236	. . .	3	2,777	12	28	
Hallstead shaft,	Marcy township, do.	182,474	174,211	182	474	3	3	5,546	15	52	

BUTLER COAL COMPANY.

Butler shaft and slope,	Pittston township, Luzerne county,	20,935	18,051	142	128	. . .	3	554	7	14	
Mosier shaft and slope,	Hughestown borough, do.	92,834	92,834	236	256	2	3	3,001	9	24	
Twin shaft,	Pittston borough, do.	62,293	62,293	201	210	2	. . .	3,188	10	22	

WYOMING VALLEY COAL COMPANY.

Forty Fort shaft,	Kensington township, Luzerne county,	136,700	128,000	270	291	2	7	6,840	13	33	
Harry E. shaft and slope,	Do. do.	74,000	62,000	259	304	1	3	3,210	18	21	

MISCELLANEOUS COAL COMPANIES.

Boston slope and drift,	Jenkins, Luzerne county,	31,350	31,350	121	255	. . .	. . .	1,613	7	25	
Schooley shaft,	Exeter borough, do.	140,598	140,598	201	483	2	3	4,809	15	44	
Bernice drift,	Bernice, Sullivan county,	61,767	59,331	244	227	1	. . .	788	2	49	
Bennett shaft,	Plains township, Luzerne county,	97,193	93,970	211	257	2	1	3,445	16	22	
Raubville shaft,	Luzerne borough, do.	57,007	51,912	205	224	. . .	1	1,960	15	8	
Black Diamond shaft,	Kingston township, do.	121,160	107,965	147	300	1	6	5,403	19	31	
Clear Spring shaft,	West Pittston borough, do.	132,125	124,777	160	359	. . .	8	4,809	14	45	
Consolidated shaft and slope,	Pleasant Valley, do.	97,171	95,972	162	360	. . .	1	3,637	11	36	
Dunn shaft,	Old Forge township, Lackawanna county,	118,596	117,540	187	387	1	1	4,246	12	42	
Sibley shaft,	Do. do.	65,394	65,394	142	288	. . .	2	3,227	12	23	

*Has been idle in 1886. †Has not started to ship coal yet.

TABLE No. 2—*Continued.*

MISCELLANEOUS COAL COMPANIES—*Continued.*

NAMES OF COLLIERIES.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Greenwood shaft,	Lackawanna township, Lackawanna county,	34,433	32,173	47	374	. . .	1	1,122	19	42	
Glendale mines,	Do. do.	15,627	14,743								
Elmwood shaft,	Pittston township, Luzerne county,	77,632	74,170	206	297	. . .	2	3,083	6	24	
Enterprise shaft,	Plains township, do.	95,704	90,035	241	218	. . .	12	2,432	14	31	
East Boston shaft,	Kingston township, do.	101,654	99,546	161	289	1	7	3,715	18	30	
Fairmount shaft,	Pittston township, do.	7,300	7,000	48	122	. . .	. . .	365	6	13	
Hillman slope,	Plains township, do.	37,679	37,679	189	120	. . .	. . .	1,540	8	17	
Keystone slope and drifts,	Do. do.	2,607	2,457	17	110	. .	. . .	560	6	16	
Katy-Did tunnel,	Pleasant Valley, do.	15,487	14,574	197	45	. . .	1	395	1	9	
*Spring Brook mines,	Moosic, Lackawanna county,	26,615									
Grand total,		4,260,050	4,117,235	7,522	13,027	33	137	145,086	647	1,451	4

* Cannot get any report from this colliery; was sold out.

TABLE No. 3—Showing the number of each class of employés at each colliery in the Second Anthracite Mine District during the year 1886.

PENNSYLVANIA COAL COMPANY.

Names of Collieries.	Location.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate-pickers.	All company men.	Superintendent, book-keepers and clerks.	Total outside.	
Barnum, 2 shafts,	Marcy twp., Luzerne county,	2	138	138	27	50	22	377	1	5	10	78	42	3	139	516
Laws, 2 shafts,	Pittston twp., Luzerne county,	3	105	114	26	39	17	304	1	6	14	65	46	4	136	440
Old Forge breaker,	Shaft No. 1, *Shaft No. 2, Shaft No. 9,	2	80	80	19	24	13	218	1	2	9	64	43	2	121	339
Breaker, No. 10,	Shaft No. 10, Shaft No. 10, Jr., Abbott's slope,	3	134	138	31	50	7	363	1	4	12	82	43	3	145	508
Breaker, No. 8,	Shaft No. 1, Shaft No. 8,	1	88	88	14	22	4	217	1	2	5	56	22	2	88	305
Ewen breaker,	*Shaft No. 4, *Tunnel No. 1, Slope No. 4, Shaft No. 7,	1 1	46 48	46 48	11 19	19 20	4 6	127 142	1 2	2 1	4 7	 99	15 38	1 2	23 149	150 291
Breaker, No. 6,	Shaft No. 5, Shaft No. 6, Shaft No. 11,	2	168	168	30	44	8	420	1	5	7	91	29	3	136	556
Shaft and slope No. 14,	Do. do.	2	85	84	29	27	5	232	1	6	9	54	46	2	118	350

DELAWARE AND HUDSON CANAL COMPANY.

Mill Creek shaft and slope,	Plains twp., Luzerne county,	1	40	40	17	30	4	132	1	4	5	53	45	. . .	108	240
Pine Ridge shaft,	Miners' Mills, Luzerne county,	1	80	80	39	42	12	254	1	6	9	94	39	1	150	404
Laurel Run slope,	Parsons boro., Luzerne county,	1	66	66	22	44	11	210	1	5	8	92	38	1	145	355

TABLE No. 3—*Continued.*

LEHIGH VALLEY COAL COMPANY.

NAMES OF COLLIERIES.	Location.	NUMBER OF PERSONS EMPLOYED INSIDE.							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate-pickers.	All company men.	Superintendent, bookkeepers and clerks.	Total outside.	
Prospect shaft,	Plains twp., Luzerne county,	3	160	180	55	77	11	486	2	4	29	92	55	. . .	182	668
Oakwood shaft,	Do. do.	1	81	70	22	33	17	227	1	5	8	46	61	. . .	121	348
Wyoming shaft,	Do. do.	1	87	70	28	82	46	314	1	4	12	34	49	. . .	100	414
Heury shaft,																
*Maltby shaft,	Wyoming, Luzerne county.															
Mineral Spring slope,	Parsons boro., Luzerne county,	1	45	24	11	28	5	124	1	4	9	52	22	. . .	88	212
*Midvale slope,	Plains twp., Luzerne county.															
*Exeter shaft,	Exeter boro., Luzerne county.															
Heidelburg shaft and slope,	Pittston twp., Luzerne county,	1	62	58	22	26	6	175	1	2	6	37	57	. . .	103	278

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY.

†Pettibone shaft,	Kingston twp., Luzerne county,	. . .	. . .	. . .	17	. . .	. . .	17	1	1	4	. . .	16	. . .	22	39
Hunt shaft,	Wyoming, Luzerne county,	1	65	55	8	17	3	149	1	2	3	53	28	. . .	87	236
Halstead shaft,	Marcy twp., Luzerne county,	1	130	110	40	35	10	326	1	4	7	98	38	. . .	148	474

BUTLER COAL COMPANY.

Butler shaft and slope,	Pittston twp., Luzerne county,	1	30	30	6	10	1	78	1	3	2	35	6	3	50	128
Mosier shaft and slope,	Hughestown boro., Luz. county,	1	58	58	4	36	2	159	1	4	4	62	24	2	97	256
Twin shaft,	Pittston boro., Luzerne county,	1	50	40	8	24	4	127	1	2	2	50	26	2	83	210

WYOMING VALLEY COAL COMPANY.

Forty Fort shaft,	Kingston twp., Luzerne county,	1	95	46	17	30	5	194	1	4	6	56	30	. . .	97	291
Harry E. shaft and slope,	Do. do.	1	80	80	18	15	9	203	1	2	6	45	47	. . .	101	304

MISCELLANEOUS COAL COMPANIES.

Boston slope and drift,	Jenkins twp., Luzerne county,	1	60	45	28	23	3	160	1	2	2	52	38	. . .	95	255
Schooley shaft,	Exeter boro., Luzerne county,	2	100	130	52	38	11	333	1	5	4	60	78	2	150	483
Bernice drift,	Sullivan county,	1	120	. . . .	6	13	4	144	1	6	1	55	18	2	83	227
Bennett shaft,	Plains twp., Luzerne county,	2	56	54	24	26	7	169	1	3	4	57	21	2	88	257
Raubville shaft,	Luzerne boro., Luzerne county,	2	60	50	10	18	2	142	1	2	2	44	33	. . .	82	224
Black Diamond shaft,	Kingston twp., Luzerne county,	1	90	65	17	23	10	206	1	2	4	66	21	. . .	94	300
Clear Spring shaft,	West Pittston boro., Luz. county,	1	90	90	44	37	14	276	1	2	2	43	33	2	83	359
Consolidated shaft and slope,	Pleasant Valley boro., Luz. co.,	2	95	95	18	40	15	265	1	3	7	45	39	. . .	95	360
Dunn shaft and slope,	Old Forge twp., Lacka. county,	1	84	84	22	48	8	247	1	4	3	116	16	. . .	140	387
Sibley shaft,	Do. do.	1	75	50	13	30	7	181	1	4	4	70	26	2	107	288
Greenwood shaft,	Lackawanna county,	2	90	80	22	44	16	254	1	2	8	70	39	. . .	120	374
‡Glendale mines,	Do. do.															
Elmwood shaft,	Pittston twp., Luzerne county,	1	64	64	10	24	7	170	1	2	2	85	37	. . .	127	297
Enterprise shaft,	Plains twp., Luzerne county,	2	33	58	25	21	7	146	2	4	5	29	32	. . .	72	218
East Boston shaft,	Kingston twp., Luzerne county,	1	68	48	38	34	11	200	1	2	3	55	28	. . .	89	289
Fairmount shaft,	Pittston twp., Luzerne county,	1	30	30	8	10	4	83	1	2	2	26	8	. . .	39	122
Hillman slope,	Plains twp., Luzerne county,	1	32	30	6	13	4	86	1	1	2	17	13	. . .	34	120
Keystone slope and drift,	Do. do.	1	20	25	8	10	2	66	1	2	2	24	15	. . .	44	110
Katy-Did tunnel,	Pleasant Valley, Luzerne county,	1	11	8	1	3	. . .	24	1	1	1	11	7	. . .	21	45
‖Spring Brook mines,	Lackawanna county.															
Grand total,	. . . . .	53	3,202	2,927	897	1,279	364	8,907	46	138	235	2,413	1,407	41	4,300	13,027

* Not working in 1886.
‡ Could not get any report, only tonnage; company suspended.
† Has not started to ship coal yet.
‖ Could not get any report from this colliery; was sold out.

TABLE No. 4—List of fatal accidents occurring in and about the mines of the Second Anthracite Mine District for the year ending December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 20	Cornelius O'Brine,	Headman, . .	19	. .	. .	Prospect shaft, ...	Plains township, Luzerne,	Was instantly killed on the night shift on the head of inside slope by being caught between the car and sheave-wheel, which carries the rope over the road. O'Brine must have stepped on the head car to disconnect the rope from the cars on head of slope, and the engineer not giving him the usual slack in the proper place, he was taken up to the sheave-wheel while in a stooping position. There were strict orders to the headman not to get on the car to disconnect the rope from them, as there was a good plank walk for the headman to walk on.
Feb. 7	Patrick O'Boyle, .	Engineer, . .	34	1	6	Mosier shaft, ...	Hughestown borough, do.	O'Boyle was injured so seriously that he died on February 17, ten days after. He was hoisting water out of a new shaft with a barrel, and, while in the act of lowering the barrel, the fly-wheel, which was fourteen feet in diameter, broke, throwing a large piece on him and demolishing the engine-house.
25	William E. Lewis, .	Track layer, .	28	1	2	Henry—L. V. C. Co., ...	Plains township, do.	Was smothered to death at the bottom of air shaft. The cribbing of shaft had given out, and in repairing same a large quantity of mud and timber had gone down the shaft after repairing the cribbing. Lewis and four or five other men went to the bottom to remove and stow back the refuse which was in the shaft; while in the act of doing so a rush took place in the shaft of mud, which caught Lewis with the above result.
2	James Schline, . .	Laborer, . . .	29	. .	. .	Dunn shaft, ...	Lackawanna twp., Lackawa'a,	Instantly killed by fall of roof.
Mar. 3	John Synott, ...	Slate-picker,	12	. .	. .	Twin—Butler Company, ...	Pittston borough, Luzerne,	Instantly killed by being caught between the large screen and foot plank.

	8	Thomas McHale, .	Miner, ...	30	1	. .	Shaft No. 10—P. C. Co., ...	Hughestown borough, do.	McHale was coming out off the gangway to go home, and getting on the rear end of car to ride out, another car came out of the gangway and caught him between them, injuring him so seriously that he died March 22, 1886.
April	2	John Lynn, ...	Laborer, . . .	24	1	. .	Pine Ridge shaft—D. & H. C. Co.,	Miners' Mills borough, do.	Instantly killed by a fall of top coal.
	12	Charles Miller, . .	Breaker boss,	50	1	. .	Barnum breaker—P. C. Co., . . .	Marcy township, do.	Instantly killed by being caught in cog-wheels. Miller was the person to oil the breaker in the morning before starting; after getting through oiling, as was supposed, he ordered the machinery started up. It appears he had neglected to oil these cogs, and went back to do so and was caught, as his oil can was close beside him and the box was off the cogs.
	15	Patrick Lang, . . .	Miner, ...	36	1	8	Bernice drift—S. L. & S. Co., . .	Bernice, Sullivan, ...	Instantly killed by fall of top rock. Was ordered to take it down by the mine boss; said he would, but going in under it to mine out some loose coal, he did so it with the above result.
	21	Charles Peles, . . .	Laborer, . . .	28	1	1	Prospect shaft—L. V. C. Co., . .	Plains township, Luzerne,	Instantly killed while in the act of loading a car by a large piece of top coal, which was cut off by slips, which was not seen until after the accident occurred. The chamber was properly timbered, and he had a very careful miner.
May	10	Edward Moran, . .	Laborer, . . .	25	. .	. .	Bennett shaft, ...	Do. do.	Moran was laboring in an airway for a miner by the name of Hurley. A miner by the name of Gallagher was turning a chamber off the heading above them. Gallagher had a hole ready to blast; he called down to Hurley and Moran to get away as he was going to fire; they called back to him to fire away. There was an entrance close to the face of the airway. Hurley went close to the face of heading, telling Moran to come up to the face, but Moran told him he was all right. When the blast went off a piece of coal flew through the entrance, cutting the throat of Moran so that he died on the 13th, three days after.
	27	James Willson, . .	Carpenter, . .	60	1	6	Mosier shaft, ...	Hughestown borough, do.	Willson had charge of some men putting in bunting in the new air shaft. On the morning of the 27th went down the shaft with his men to a platform in the middle of shaft, putting his men to work while he went to the bottom to start a small steam pump. After getting the pump to work, he came to bottom of shaft to ring for the bucket; a piece of stone fell, striking him on the head, fracturing his skull from which he died three days after.

TABLE No. 4—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
June 7	Patrick Joice, . . .	Laborer, . . .	27	. .	. .	Mineral Spring, ...	Parsons borough, Luzerne,	Joice was so fatally burned by an explosion of fire-damp going along the gangway to his work that he died on the next morning, the 8th.
Aug. 2	Thomas Missett, .	Laborer, . . .	22	. .	. .	Schooley shaft, ...	Exeter borough, do.	Instantly killed by a large piece of rock, 12 feet long by 7 feet wide and 18 inches thick, falling on him while he was in the act of loading a car. The fire boss ordered the miner to take it down on the morning of the accident; he said he would, but neglected to do so until it was too late and a life lost.
7	William Sunley, . .	Miner, ...	56	1	3	Halstead shaft, ...	Marcy township, do.	Was so fatally injured while in the act of standing a prop he had just discharged by a blast, with a large piece of rock coming down on him, that he died on the 11th, four days after.
17	Edward Boase, . .	Miner, ...	26	. .	. .	Halstead shaft, ...	Do. do.	Instantly killed by a fall of top coal.
20	John Gustatus, . .	Laborer, . . .	29	. .	. .	Twin shaft, ...	Pittston borough, do.	Instantly killed by a fall of top rock while he and the miner were taking it down.
Sept. 2	Joseph Soostock, .	Laborer, . . .	22	. .	. .	Harry E. shaft, ...	Kingston township, do.	Instantly killed while in the act of loading a car by a fall of black rock.
4	Vincent Pinz, . . .	Water bailer,	58	1	1	Halstead shaft, ...	Marcy township, do.	Instantly killed by falling down shaft.
10	James Conlan, . . .	Miner, ...	46	. .	. .	Bennett shaft, ...	Plains township, do.	Instantly killed by fall of top rider while in the act of working out a shot of loose coal.
14	John Sheridan, . .	Laborer, . . .	40	. .	. .	Schooley shaft, ...	Exeter borough, do.	Fatally injured by a piece of coal flying from a blast; died the next day.
22	Patrick Corcoran, .	Miner, ...	40	1	7	Henry shaft, ...	Plains township, do.	Instantly killed by a large piece of rock while in the act of standing a prop under it.
27	Simon Heckman, .	Miner, ...	65	. .	. .	Black Diamond, ...	Kingston township, do.	Instantly killed by fall of top coal; had fired a shot; when coming back took up his drill to bar some loose coal out, and the top bench fell on him with the above result.
Oct. 7	Fred Weiscarger, .	Miner, ...	27	1	3	Shaft 14—P. C. Co., ...	Jenkins township, do.	Fatally injured by fall of black rock so that he died before he was taken home.
23	Martin Norflake, .	Laborer, . . .	30	1	. .	Pettibone shaft, ...	Kingston township, do.	Instantly killed in the sinking air shaft by a large piece of rock becoming detached from the side of shaft.

	28	Patrick Farrele, . .	Laborer, . . .	24	. .	Mill Creek, ...	Plains township,	do.	Fatally injured by fall of top rock, and died November 5, 1886.
	30	George Brace, . . .	Shaft-footman	39	. .	East Boston, ...	Kingston township,	do.	Instantly killed by falling down shaft by a misunderstanding with the engineer.
Nov.	1	Patrick McGroarty,	Miner, ...	22	. .	Oakwood shaft, ...	Plains township,	do.	Instantly killed by a large piece of top coal while in the act of loading his car. McGroarty's laborer did not come to work this morning, which caused the miner to load his own coal, and, while standing on the bottom bench of coal, which is about two and a half feet thick, the fatal piece came on him. In my investigation the next morning I find McGroarty had fired a blast in the top coal, and in all probability was in a hurry to load his car, and did not take the usual precaution to examine the top coal and take down what was loose.
	18	John Sheppard, . .	Slate-picker,	13	. .	No. 8 shaft breaker, ...	Hughestown borough,	do.	Was fatally injured, and died the next day. The day's work was over, and the boys were passing out of the breaker to go home, when the boy in advance of Sheppard stepped on the box that covers the cog-wheels of a counter screen, tipping it up out of place so that when Sheppard stepped on it his foot slipped down into the cogs and he was drawn in, the machinery not yet being stopped, mangling his left leg badly and pulling it out of the socket at the hip joint. The boys were not required to go over this box, and were told not to do so
	27	John O. Fenwick, .	Miner, ...	26	. .	Forty Fort shaft, ...	Kingston township,	do.	Fatally burned by the exploding of a keg of powder, so that Cosgrove died the next day and Fenwick died on December 3, 1886. Stephen Marsden and John O. Fenwick, miners, were robbing pillars in the top, or 6-foot vein; they had a blast to fire before they could load a car which was in their place, the other parties going back about fifty yards to an entrance where they kept their powder. Marsden remained to light the squib; after the squib went off it failed to explode the blast, when Marsden took another to try again, and went up to do so. Fenwick said he thought the squibs were damp; taking one he placed it on an empty powder keg and set fire to the squib. Edward Harder, laborer; Henry Parks, runner, and William Cosgrove, the driver, were standing close to him at the time the squib went off, setting fire to a full keg of powder which happened to be outside of his box at the time, burning Harder and Parks and taking the life of Fenwick and Cosgrove.
	27	William Cosgrove,	Driver, ...	17	. .	Forty Fort shaft, ...	Do.	do.	

TABLE No. 4—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Nov. 24	Michael Burke, . .	Miner, ...	40	1	1	No. 10 shaft, ...	Hughestown boro., Luzerne,	Instantly killed while in the act of standing a prop by a large piece of rock from the roof.
Dec. 6	Geo. Puterbaugh, .	Team driver,	19	. .	. .	Laurel Run slope, ...	Parsons borough, do.	So severely injured by a mine car let over the head of the slope without being connected to the rope that he died that night. There was a misunderstanding with the men on head of slope in regard to coupling the cars, that one of the cars was shoved over with the above result.

NOTE.—There was one fatal accident which occurred in the Hillside Coal Company's slope, at Pleasant Valley, which I do not think has any cause to be charged to the mining of coal, as the young man, Connor by name, went down the slope at night after the day's work was over without any cause whatever, and by some means or other got his head in between the water chamber and cylinder of a No. 8 Knowles' pump; therefore, I have not placed this fatal accident in the list.

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the Second Anthracite Mine District for the year ending December 31, 1886.

Date of accident.	Name of Person.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 7	Owen Roberts,	Driver,	21	Mineral Spring,	Parsons borough, Luzerne,	Kicked by a mule in the face.
8	Sylvester Lamb,	Laborer,	27	Pine Ridge,	Miners' Mills boro., do.	Arm broken blocking car.
11	Owen Reynolds,	Engineer,	40	Prospect,	Plains township, do.	Right shoulder sprained by locomotive leaving track outside.
14	Edward Flynn,	Laborer,	24	Schooley,	Exeter borough, do.	Leg broken by fall of black rock.
15	James Carroll,	Car topper,	14	Clear Spring,	West Pittston, do.	Fell off top of cars outside, injuring his head.
16	John Comouick,	Laborer,	38	Forty Fort,	Kingston township, do.	Badly injured by premature blast.
19	Charles Johnson,	Laborer,	45	Prospect,	Plains township, do.	Knee slightly squeezed between loaded cars.
21	Joseph Lartzkey,	Laborer,		Clear Spring,	West Pittston, do.	Injured on head by some person throwing stone.
26	John H. Edwards,	Runner,	28	East Boston,	Kingston township, do.	Hand crushed by being run over by car.
25	John Feltz,	Miner,	32	Sibley,	Lackawanna twp., Lackaw'a,	Run against the point of his mine needle.
Feb. 2	William Johnson,	Miner,	34	Mill Creek,	Plains township, Luzerne,	Burned by explosion of powder.
2	Thomas Connor,	Door-boy,	15	Henry shaft,	Plains township, do.	Fell under mine cars while same were moving.
2	Thomas Gill,	Driver,	21	Barnum shaft,	Marcy township, do.	Arm broken by runaway on plane.
4	John Dane,	Driver,	17	Prospect,	Plains township, do.	Head and breast slightly injured by a kick of a mule.
4	John McNamarra,	Driver,	17	Mineral Spring,	Parsons borough, do.	Leg broken above knee by mine car.
8	Thomas Smith,	Miner,	45	Black Diamond,	Kingston township, do.	Hand cut by piece of coal falling on it.
10	Dennis McGirly,	Laborer,	32	Wyoming shaft,	Plains township, do.	Burned by an explosion of fire-damp.
10	Thomas Meehan,	Miner,	40	Wyoming shaft,	Plains township, do.	Burned by an explosion of fire-damp.
11	George Brace,	Shaft footman,	37	East Boston,	Kingston township, do.	Head injured by ice falling down shaft.
24	William Moluskey,	Miner,	35	Clear Spring,	West Pittston, do.	Burned by an explosion of fire-damp.
24	Matt. Valitus,	Laborer,	40	Clear Spring,	West Pittston, do.	Burned by an explosion of fire-damp.
27	John Bowden,	Oiler,	16	Laurel Run,	Parsons borough, do.	Dislocation of right arm by rope when oiling pulley.
March 4	Mike Meklus,	Laborer,	28	Harry E.,	Kingston township, do.	Leg broken by a fall of rider coal.
13	John Hughes,	Driver,	16	Pine Ridge,	Miners' Mills boro., do.	Leg broken and two fingers taken off by a runaway car on slope.
19	Philip Nealon,	Miner,	63	Shaft No. 1, Pennsylvania Co.,	Hughestown boro., do.	Back injured by fall of soap stone.
19	Michael Lynott,	Laborer,	22	Shaft No. 1, Pennsylvania Co.,	Hughestown boro., do.	Legs and body bruised by same stone.
24	George Martin,	Laborer,	36	Ontario, Lykens Valley,	Pleasant Val. boro., do.	Leg amputated by being crushed between cars.
26	John Gallagher,	Miner,	40	Enterprise,	Plains township, do.	Arm broke by rock falling on it.

TABLE No. 5—*Continued.*

Date of accident.		NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
April	1	Edward Flechner,	Laborer,	24	East Boston,	Kingston township, Luzerne	Injured by fall of slate and dirt.
	5	James Cunnard,	Miner,	30	Prospect,	Plains township, do.	Burned by an explosion of fire-damp.
	5	Cornel's O'Donnell,	Laborer,	22	Prospect,	Do. do.	Burned by an explosion of fire-damp.
	14	Richard Lee,	Miner,	45	Wyoming,	Do. do.	Injured by fall of rider coal.
	19	Pat Kerrigan,	Miner,	51	Bennett,	Do. do.	Injured by fall of top coal.
	19	Archibald Wallace,	Fireman,	38	Pettibone,	Kingston township, do.	Scalded by one of the plugs of flue blowing out.
	21	Roger Slater,	Miner,	40	Clear Spring,	West Pittston, do.	Leg broken by fall of rock.
	22	Charles Merrill,	Miner,	36	Prospect,	Plains township, do.	Foot slightly injured by prop falling on it.
	23	Samuel Siglean,	Driver,	16	Ontario,	Pleasant Val. boro., do.	Kicked by a mule in the face.
	26	George Harrison,	Miner,	32	Enterprise,	Plains township, do.	Three ribs broken by fall of coal.
	22	James Curley,	Driver,	15	Old Forge,	Lackawanna twp., Lackaw'a,	Thigh fractured by falling under moving cars.
May	3	Valentine Klinko,	Unhitcher,	16	East Boston,	Kingston township, Luzerne,	Slightly injured while unhitching rope from cars.
	11	John Vega,	Door-boy,	16	Halstead,	Marcy township, do.	Leg broken by mine car jumping track.
	12	Abraham Lloyd,	Miner,		Butler,	Pittston township, do.	Back injured by fall of rock.
	14	Jenkins J. Evans,	Miner,	60	East Boston,	Kingston township, do.	Scalp wound by fall of slate.
	17	Jacob Ward,	Runner,	31	Hunt,	Wyoming township, do.	Injured by being caught between mine cars and prop.
	18	Max Grinor,	Laborer,	34	Butler,	Pittston township, do.	Legs broken by fall of rock and dirt.
	19	George Dolan,	Driver,	18	Wyoming,	Plains township, do.	Ribs broken by a kick from a mule.
	22	Anthony Miller,	Laborer,	30	Clear Spring,	West Pittston boro., do.	Injured by rock, caused by car knocking out prop.
	27	Thomas Hall,	Miner,	28	Enterprise,	Plains township, do.	Head cut by falling down shaft.
	27	James Butler,	Runner,	20	Laurel Run,	Parsons borough, do.	Hip broke; caught between mine car and platform.
	27	Patrick Burnes,	Miner,	48	Shaft No. 5,	Jenkins township, do.	Thigh broken by fall of boney coal.
June	3	James Nicoock,	Laborer,	30	Prospect,	Plains township, do.	Fingers crushed by spragging car at breaker.
	3	Storitch Frantz,	Miner,	32	Black Diamond,	Kingston township, do.	Slightly injured by fall of slate.
	4	Daniel Petty,	Miner,	60	Black Diamond,	Kingston township, do.	Toes bruised by rock falling on them.
	5	James Munley,	Miner,	25	Henry,	Plains township, do.	Face and hands burned by an explosion of gas.
	7	Bernard Farrell,	Miner,	46			
	7	Patrick Corby,	Laborer,	24			
	7	James Hammond,	Miner,	40	Mineral Spring,	Parsons borough, do.	Slightly burned by explosion of fire-damp.
	7	John Reese,	Miner,	35			
	7	Patrick Lawler,	Laborer,	24			
	8	Jacob Kolbeck,	Laborer,	23	Mosier,	Hughestown boro., do.	Leg broken by fall of soap stone.

June	8	James Murphy, . .	Miner, ...	35	Halstead, ...	Marcy township, do.	Head and shoulders bruised by flying coal from a blast.
	12	Owen Reynolds, . .	Loco. engin'r,	38	Prospect, ...	Plains township, do.	Fingers crushed by coaling locomotive.
	12	Patrick Haley, . . .	Miner, ...	26	Enterprise, ...	Do. do.	Hand badly crushed by coal falling on it.
	14	Michael Walsh, . .	Miner, ...	40	Enterprise, ...	Do. do.	Back injured; caught in cage pit with cage.
	15	Laurence Sheppard,	Laborer, . . .	30	Raubville, ...	Luzerne borough, do.	Leg broken by fall of rock from roof.
	18	John Pointen, . . .	Miner, ...	56	Ontario, ...	Pleasant Val. boro., do.	Leg broken by fall of top coal.
	19	Thomas Giregell, .	Miner, ...	36	Barnum, ...	Marcy township, do.	Back slightly bruised by fall of top coal.
	19	John Lovell, ...	Miner, ...	27	Barnum, ...	Marcy township, do.	Back severely injured by fall of top coal.
	22	Michael Vargo, . .	Car oiler, . . .	40	Forty Fort—Harry E., ...	Kingston township, do.	Ribs broken by being caught between cars.
	25	John Haley, ...	Miner, ...	22	Enterprise, ...	Plains township, do.	Slightly injured by fall of boney coal.
	8	Thomas Cox, ...	Pumpman, . .	27	Dunn shaft, ...	Lackawanna twp., Lackaw'a,	Slightly injured by steam pipe blowing out.
July	7	A. Umbewust, . . .	Miner, ...	45	Prospect, ...	Plains township, Luzerne, .	Face and hands burned slightly by fire-damp.
	8	John Covell, ...	Laborer, . . .	25	Harry E., ...	Kingston township, do.	Leg broken by fall of top rock.
	12	John Gattey, ...	Laborer, . . .	21	Shaft No. 7, ...	Jenkins township, do.	Finger crushed by car wheel going over it.
	17	Thomas Donohoe, .	Miner, ...	50	Harry E., ...	Kingston township, do.	Jaw bone fractured by being knocked off car.
	20	August Broney, . .	Miner, ...	28	Ontario, ...	Pleasant Val. boro., do.	Foot bruised by rock falling on it.
	23	Michael Burk, . . .	Laborer, . . .	38	Wyoming, ...	Plains township, do.	Head and back bruised by fall of rock.
	26	John Mitchell, . . .	Laborer, . . .	49	Central breaker, ...	Pleasant Val. boro., do.	Ribs broken and breast bruised; caught between car and post.
	28	William Nogle, . .	Driver, ...	16	Mosier, ...	Hughestown boro., do.	Kicked by a mule in the breast.
	29	James Wallace, . .	Miner, ...	28	East Boston, ...	Kingston township, do.	Scalp wound on head by a piece of rock.
	31	John Larkus, . . .	Laborer, . . .	24	Schooley, ...	Exeter borough, do.	Leg broken by being caught by box of mine car.
	8	John Callahan, . .	Driver, ...	16	Old Forge, ...	Lackawanna twp., Lackaw'a,	Collar bone broken by being squeezed between mule and car.
	14	William Gabrell, .	Machinist, . .	25	Sibley breaker, ...	Lackawanna twp., Lackaw'a,	Slightly injured by plank falling on him.
Aug.	3	William Shaw, . . .	Driver, ...	17	Clear Spring, ...	West Pittston boro., Luzerne,	Flesh wound on arm by car wheel going over it.
	6	Frank Goosack, . .	Laborer, . . .	38	Wyoming shaft, ...	Plains township, do.	Burned by explosion of fire-damp.
	6	John L. Morgan, .	Bratticeman,	49	Wyoming shaft, ...	Plains township, do.	Burned by explosion of fire-damp.
	7	Moses Hughes, . .	Driver, ...	18	Black Diamond, ...	Kingston township, do.	Slightly injured on leg by car wheel.
	10	Henry Kerrigan, .	Helper, ...	18	Hunt, ...	Wyoming township, do.	Fingers slightly bruised by being caught between bumpers of cars.
	13	James Sammons, .	Miner, ...	47	Black Diamond, ...	Kingston township, do.	Face and hands burned by fire-damp.
	14	Ambrose Reese, . .	Miner, ...	26	Pine Ridge, ...	Miners' Mills boro., do.	Arm broken and hip dislocated by fall of top coal.
	16	John Dingwell, . .	Laborer, . . .	24	Enterprise, ...	Plains township, do.	Hand slightly injured by coal falling off car.
	20	Oliver Burke, . . .	Miner, ...	58	Shaft No. 1, ...	Jenkins township, do.	Leg broken and back bruised by fall of rock.
	24	John Hayden, . . .	Miner, ...	32	Forty Fort, ...	Kingston township, do.	Severely injured by fall of boney coal while robbing pillars.
	26	John Davanah, . .	Laborer, . . .	40	Enterprise, ...	Plains township, do.	Leg and collar bone broken by fall of rock.
	27	Martin McGuire, .	Miner, ...	40	Henry, ...	Do. do.	Injured by premature blast.
	27	Michael Gallagher,	Door-boy, . .	15	Enterprise, ...	Do. do.	Leg broken and hip dislocated by falling under mine car.
	28	Patrick Sweeney, .	Miner, ...	45	Consolidated slope, ...	Pleasant Val. boro., do.	Leg broken by fall of rock.
Sept.	3	William Tasker, . .	Miner, ...	28	Wyoming shaft, ...	Plains township, do.	Burned by an explosion of fire-damp.
	3	Michael Eusack, . .	Miner, ...	26	Wyoming shaft, ...	Do. do.	Burned by an explosion of fire-damp.
	4	Bernard Gallagher,	Slate-picker,	13	Mineral Spring breaker, ...	Parsons borough, do.	Fell from breaker trestling to culm road, fracturing his skull.
	7	Henry White, . . .	Miner, ...	40	Wyoming shaft, ...	Plains township, do.	Burned by an explosion of fire-damp.
	7	William Crane, . .	Miner, ...	60	Wyoming shaft, ...	Plains township, do.	Shot himself by a blast while crossing the chamber.

TABLE No. 5—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Sept. 13	Michael Hopkins, .	Driver, ...	18	Elmwood shaft, ...	Pittston township, Luzerne,	Kicked in face by a mule.
14	Senica Armatage, .	Miner, ...	34	Butler shaft, ...	Pittston township, do.	Leg broken by fall of coal and rock.
15	Simon Kishus, . . .	Miner, ...	36	Schooley shaft, ...	Exeter borough, do.	In lighting match ignited squib, shot himself, breaking his leg.
16	William Finn, . . .	Driver, ...	17	Wyoming shaft, ...	Plains township, do.	Foot crushed by rock falling on it.
23	William Gerraty, .	Miner, ...	26	Shaft No. —, Pennsylvania Coal Co.,	Pittston borough, do.	Leg badly cut by coal falling on it.
Oct. 5	Peter Vichshereny,	Laborer, . . .	34	East Boston, ...	Kingston township, do.	Flesh wound on back by rock falling on him.
8	John Pryor, ...	Laborer, . . .	44	Barnum shaft, ...	Marcy township, do.	Hip dislocated by piece of rock falling on it.
8	Michael Tigue, . .	Miner, ...	44	Elmwood shaft, ...	Pittston township, do.	Leg broken by fall of coal.
11	Thomas Parry, . .	Miner, ...	50	Wyoming shaft, ...	Plains township, do.	Burned by explosion of fire-damp.
11	John Rowland, . . .	Miner, ...	21	Wyoming shaft, ...	Plains township, do.	Burned by explosion of fire-damp.
14	Andrew Moran, . .	Driver, ...	17	Shaft No. 5, ...	Jenkins township, do.	Ankle bone broken by car box, while car in motion.
20	Thomas Davison, .	Miner, ...	32	Oakwood shaft, ...	Plains township, do.	Burned by explosion of gas.
20	Joseph Larney, . .	Barn-boss, . .	58	Hunt shaft, ...	Kingston township, do.	Head badly injured by mule kicking him in barn.
25	Joseph Kelley, . . .	Driver, ...	17	Enterprise shaft, ...	Plains township, do.	Four teeth kicked out by a mule.
27	John Stear, ...	Miner, ...	35	Barnum shaft, ...	Marcy township, do.	Struck by piece of coal from a blast.
27	Patrick McAndrew,	Laborer, . . .	27	Barnum shaft, ...	Marcy township, do.	Hip injured by fall of black rock.
30	James Kelley, . . .	Helper, ...	18	Shaft No. 10, ...	Pittston borough, do.	Caught between mine car and roof.
Nov. 5	Emanuel Drake, . .	Miner, ...	33	Mosier shaft, ...	Hughestown boro., do.	Leg fractured by fall of soap stone.
6	Edward Graham, .	Driver, ...	16	Greenwood shaft, ...	Lackawanna boro., Lackaw'a,	Squeezed between empty mine car and pillar.
11	Henry Padfield, . .	Miner, ...	40	Clear Spring shaft, ...	West Pittston boro., Luzerne,	Spine injured by fall of rock.
27	Edward Harder, . .	Laborer, . . .	27	Forty Fort shaft, ...	Kingston township, do.	Burned by a keg of powder exploding.
27	Henry Parks, . . .	Car runner, .	24	Forty Fort shaft, ...	Kingston township, do.	Burned by a keg of powder exploding.
27	Edward Thornton,	Helper, ...	14	Laurel Run breaker, ...	Parsons borough, do.	Arm broken by riding on culm car.
30	Michael Mahalko, .	Miner, ...	27	Forty Fort shaft, ...	Kingston township, do.	Jaw fractured by fall of slate.
30	Joseph Kuffick, . .	Laborer, . . .	28	Forty Fort shaft, ...	Kingston township, do.	Slightly injured by fall of slate.
30	William Tasker, . .	Miner, ...	24	Katy-Did drift, ...	. . . . .	Jaw bone fractured and otherwise injured, by fall of top coal.
Dec. 1	William Serl, . . .	Miner, ...	24	Enterprise slope, ...	Plains township, do.	Head and back slightly bruised by fall of rock.
9	Barney Kelley, . .	Laborer, . . .	45	Henry shaft, ...	Plains township, do.	Squeezed between mine car and shaft timber.
11	John Reynolds, . .	Mine foreman,	28	No. 6 shaft, ...	Jenkins township, do.	Burned by an explosion of gas.
15	Joseph Tosalt, . . .	Miner, ...	49	Black Diamond shaft, ...	Kingston township, do.	Slightly injured by being struck by flying coal from a blast.

17	John Vanno, ...	Laborer, . . .	26	Barnum shaft, ...	Marcy township,	do.	Leg slightly injured by piece of wood on culm dump.
18	James Henry, . . .	Miner, ...	50	Wyoming shaft, ...	Plains township,	do.	Slightly injured by a blast ignited by gas blower.
21	John Hughes, . . .	Driver, ...	18	Prospect shaft, ...	Do.	do.	Leg broken by being caught between car and door.
23	John McLuskey, . .	Driver, ...	14	Enterprise shaft, ...	Do.	do.	Fingers broken by being caught between top of car and roof.
28	William Belsicker,	Car loader, . .	18	Hallstead breaker, ...	Marcy township,	do.	Back injured by falling of platform to road outside at breaker.

Third Anthracite Coal District.

Synopsis of the report of Inspector G. M. Williams for the year ending December 31, 1886. Compiled by the Bureau :

Number of mines in the district,	57
Number of mines operated from which statistics were gathered,	57
Average working time, in days, for fifty-seven mines,	209
Persons employed inside of mines,	12,505
Persons employed outside of mines,	6,651
Total number of persons employed,	19,156
Number of fatal accidents,	58
Number of non-fatal accidents,	247
Persons employed per fatal accident,	330
Persons employed per non-fatal accident,	79
Number of tons of coal mined,	6,935,315
Number of tons of coal shipped,	6,681,812
Number of tons increased production over year 1885,	757,671
Number of tons of coal mined per fatal accident,	119,401
Number of tons of coal mined per non-fatal accident,	28,078
Number of kegs of powder used in mines,	198,942
Number of steam boilers in use,	950
Number of horses and mules in service,	1,874
Number of widows,	32
Number of orphans,	98

There was a decrease of 31 in the number of fatal accidents, and 38 in the number of non-fatal accidents.

THIRD ANTHRACITE DISTRICT.

Office of Inspector of Mines,
Third District Anthracite Coal Field,
Wilkes-Barre, Pa., *February 28, 1886.*

Honorable J. Simpson Africa,

Secretary of Internal Affairs:

Sir: I have the honor of presenting herewith my annual report for the year 1886:

It shows that the production of coal during the year was 6,935,315 tons, an increase over the production of 1885 equal to 757,671 tons.

The number of fatal accidents was 58, leaving 32 widows and 98 orphans, a decrease of 40 fatal accidents, 14 widows, and 47 orphans, as compared with those of 1885.

The number of serious non-fatal accidents was 247.

The amount of coal mined per life lost was 119,401 tons, a larger quantity than has ever been mined per life lost in this district before, and though regretting that the proportional number of lives lost was so large, we have cause to rejoice in the decided reduction shown by this year's records.

The year was remarkably free from disasters, and also from destructive fires, &c. The report contains the usual tables, notes on the condition of the mines, and a brief description of the accidents.

Respectfully yours,

G. M. WILLIAMS,
Inspector of Mines.

Total Amount of Coal Mined During the Year 1886.

Lehigh and Wilkes-Barre Coal Company,	2,042,370. 55 tons.
Delaware and Hudson Canal Company,	964,842. 50 tons.
Susquehanna Coal Company,	1,631,860. 10 tons.
Kingston Coal Company,	738,543. 05 tons.
Miscellaneous coal companies,	1,557,698. 90 tons.
Total of all coal companies,	6,935,315. 10 tons.

Number of Fatal Accidents and Amount of Coal Produced per Life Lost.

NAMES OF THE COMPANIES.	Number of lives lost.	Coal mined per life lost—tons.
Lehigh and Wilkes-Barre Coal Company,	16	127,648
Delaware and Hudson Canal Company,	8	120,605
Susquehanna Coal Company,	17	95,991
Kingston Coal Company,	7	105,506
Miscellaneous coal companies,	10	155,769
Total,	58	119,401

Number of widows, 32; orphans, 98.

Number of Fatal and Serious Accidents and Amount of Coal Produced per Each Person Injured.

NAMES OF THE COMPANIES.	Killed or injured.	Tons coal mined per person killed or injured.
Lehigh and Wilkes-Barre Coal Company,	84	24,313
Delaware and Hudson Canal Company,	60	16,080
Susquehanna Coal Company,	75	21,758
Kingston Coal Company,	31	23,824
Miscellaneous coal companies,	55	28,321
Total,	305	22,738

Classification of Fatal and Non-Fatal Accidents.

CAUSE OF ACCIDENTS.	Killed.	Seriously injured.
By explosions of carbureted hydrogen gas,	4	63
By falls of roof and coal,	33	63
By falling down shafts,		1
By cars underground,	7	56
By explosions of powder and blasts,	4	18
Miscellaneous causes—inside,	4	25
Miscellaneous causes—outside,	6	21
Total,	58	247

In addition to the above number of non-fatal accidents, 43 occurred of a very slight character, which are not included in these tables.

Nationality of Persons Fatally and Seriously Injured.

INJURY.	American.	English.	Irish.	Welsh.	Scotch.	Swedish.	Polish.	Hungarian.	Italians.	Germans.	Danish.	Unknown.	Total.
Killed or fatally injured,	6	8	16	12		1	9	4	1	1			58
Seriously injured,	39	31	68	52	1	2	30	9	1	11	1	2	247
Total,	45	39	84	64	1	3	39	13	2	12	1	2	305

The average number of persons employed in and about the mines of this district during 1886 was 19,242—152 of which were employed in the mines not producing coal. By reference to the tables, it will be seen that more coal is produced per life lost and also per each person injured in the mines of small companies than in those of the large ones. The reason for this is that the latter's collieries are much more dangerous, having more fire-damp and other dangerous elements to contend with, which cause accidents more frequently.

Condition of the Mines.

During the year 1886, the condition of the mines has remained generally unchanged. Of course, the workings spread and extend over a greater area, as they have done at all times when coal was mined out, but the extension has not been such as to affect their sanitary condition. The quantity of fresh air supplied was generally maintained in its usual volume, which is in most mines much greater than the minimum quantity required by the law. The minimum volume required is 200 cubic feet per minute to each person employed in the mine, and in mines not generating noxious and explosive gases in extraordinarily large quantity, this is sufficient air to maintain a healthy atmosphere, especially if the number of men employed in a current is sufficient to require a volume which would travel at a speed effective in conveying the smoke away. We know that the air-current should travel at a rate fast enough to convey the powder smoke away quickly, so as to prevent it clouding the atmosphere. It is found better to have a large current, traveling at a speed of from two to three hundred feet per minute, with a larger number of persons working therein, than to have a slow, sluggish current, even with only a few men in. The object of having a good, effective speed is to have the smoke of each blast conveyed away and diffused quickly. It does not make any perceptible difference if the blasts are fired more frequently, when the effect of one is conveyed away before another is fired. Owing to this, there should be a limit to splitting the air currents, and they never should be divided into volumes too small to be effective in conveying away and diffusing the smoke. In thick veins, where the air-ways are very large, and consequently the air is traveling slowly, it is better to employ from seventy to seventy-five persons therein in each split and have the volume of air proportionately larger to make its speed effective. If men who have charge of mines were educated properly to understand the laws governing ventilation of mines thoroughly, it would be better to leave the question of the number of persons employed in each split to their discretion, but as a large proportion of them do not understand that matter thoroughly, it is well that the law has limited the highest number to

seventy-five. This is low enough to ensure a healthy condition of the air which the said number would have to respire, and at the same time the volume required by law would have sufficient speed or velocity to sweep the smoke away in a short time after it is produced.

The volume of air in the Boston mine became insufficient, and the company erected a new fan at the No. 3 shaft to remedy this. This change was effective and produced satisfactory results.

In the Nos. 2 and 3 shafts of the Delaware and Hudson Canal Company, at Plymouth, the air currents were divided into a larger number of splits, and the change has proved very beneficial. Both mines are now in conformity with the requirements of the law, having limited the number of persons employed in each split below seventy-five.

At the Nottingham mine of the Lehigh and Wilkes-Barre Coal Company, at Plymouth, the quantity of air was approaching the minimum allowed by law, and too many persons were placed to work in some of the splits. On December 13, the inspector requested the foreman to make preparations to increase the quantity of air and reduce the number of persons employed in each split to the lawful number. The company at once concluded to sink a new air-shaft, to provide an additional intake and upcast, upon which a fan will be placed as soon as the shaft can be completed.

The foremen of the Lance and Reynolds collieries were also notified that too many persons were employed in some of the air-currents, and they were distributed properly in a few days thereafter.

In the No. 1 shaft, Nanticoke, there were more than the lawful number of persons employed in the "main west gangway split," and after receiving a letter from the inspector, requesting compliance with the law, it was immediately complied with by adding another split of air.

In many instances, the provisions of the law are overlooked, until the inspector requests compliance. In underground slopes, and particularly where the pitch is small, the second openings are frequently not effected or driven until the inspector pushes the matter. There were several instances during the year under consideration where the inspector had to request such work to be done; but generally, upon requesting, the work is promptly started and pushed to completion.

I find that the operators are generally disposed to have their collieries worked in such a manner that the inspector will have nothing to say, but the foremen have a tendency to delay costly preparations in cases where no imminent danger is threatened, and where the law is not strictly complied with I find that the fault generally lies with the foreman. Naturally, he desires to make the business of his employer as profitable as he can, and sometimes he is tempted to economize unwisely by aiming to do that.

Automatic speed recorders have been attached to a number of the fans on the gaseous mines, and they are working very satisfactorily.

The mine foremen praise them highly, and invariably say that a remarkable improvement is noticed in the ventilation of the mines, especially at night, because the fans are more closely watched. This instrument has revealed the fact that the fan does not run at unchangeable speed, even during the daytime, when assiduously watched. The speed varies frequently a few revolutions per minute, according to the quantity of steam used by the hoisting and pumping engines. It is evident that an improvement could be effected by attaching governors to fan-engines, so as to regulate the opening of the steam valves. A steady, invariable speed in fans is very desirable, and any measure which would effect that would be a valuable acquisition.

The only instrument used in this district is the "Scharar Speed Recorder," and it is being put on the fans as rapidly as it can be procured.

The provisions of the law regarding the furnishing of props and timbers for the mines is generally complied with, or at least the inspector does not know of any instance where it is not complied with in this district. This was a wise and beneficial provision, because it has relieved the miner of a disagreeable and unhealthy work. To cut props outside, after working all day in the mine, and when his clothing was damp from perspiration, exposed him to much danger from cold, and many who had to do that suffered more on account of this exposure than from their work in the mines. Now the companies employ men for special work, who are not subject to the extreme changes of temperature which the miner was exposed to when he had to do that work, and it has certainly proved both beneficial and pleasing to those who had to cut timber prior to the enactment of the present law.

Examination of Applicants for Mine Foremen's Certificates.

As provided in Article VIII of the act of June 30, 1885, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," an examination of applicants for certificates of service and for certificates of qualification for the Third district was held at the court-house in Wilkes-Barre, beginning May 25, 1886.

The examiners were G. M. Williams, inspector, Third district, Wilkes-Barre, Pa.; Charles Conyngham, operator, Wilkes-Barre, Pa., and James Fisher, miner, Nanticoke, Pa.

The following mine foremen were recommended as entitled to receive certificates of service:

William M. Thomas, Wilkes-Barre, Pa.
Edward Hahn, Plymouth, Pa.
Morgan R. Morgans, Plymouth, Pa.
Thomas H. Jones, Nanticoke, Pa.

Daniel Lewis, Sugar Notch, Pa.
Caleb Shonk, Plymouth, Pa.
Joseph M. Steever, Plymouth, Pa.
Gwilym Edwards, Kingston, Pa.
William H. Hosking, Sugar Notch, Pa.
William Samuel, Wilkes-Barre, Pa.
Thomas Samuel, Wilkes-Barre, Pa.
Nicholas Rapson, Wanamie, Pa.
Gwilym P. Evans, Kingston, Pa.
James B. Davies, Plymouth, Pa.
John B. Davies, Plymouth, Pa.
John C. Jones, Warrior Run, Pa.
Richard B. Watkins, Kingston, Pa.
Morgan D. Rosser, Kingston, Pa.
William H. Bray, Alden, Pa.
Thomas W. Morgan, Sugar Notch, Pa.
Thomas R. Evans, Plymouth, Pa.
Lewis S. Jones, Wilkes-Barre, Pa.
Robert C. Meyer, Plymouth, Pa.
David R. Morgan, Warrior Run, Pa.
John C. Williams, Wilkes-Barre, Pa.
Thomas J. Phillips, Plymouth, Pa.
Job Hablett, Plymouth, Pa.
William Armstrong, Wilkes-Barre, Pa.
Rees W. Morgan, Plymouth, Pa.
Daniel L. Lewis, Kingston, Pa. (Died since.)
David McDonald, Parsons, Pa.
Joseph B. Shearn, Wilkes-Barre, Pa.
Anthony Guard, Wilkes-Barre, Pa.
Lemuel Smith, Shickshinny, Pa.
John D. Walters, Plymouth, Pa.
Daniel W. Evans, Wilkes-Barre, Pa.
James Shepherd, Wilkes-Barre, Pa.
David Jonathan, Wilkes-Barre, Pa.
Lewis Morgan, Nanticoke, Pa.
W. James M. Turner, Nanticoke, Pa.
Worthy Carver, West Nanticoke, Pa.
Joseph Warne, Nanticoke, Pa.
Michael H. Corgan, Nanticoke, Pa.
David R. Roberts, Ashley, Pa.
Richard Lloyd, Wilkes-Barre, Pa.
Joseph G. Weir, Wilkes-Barre, Pa.
Thomas R. Williams, Morgantown, Pa.
William Pugh, Kingston, Pa.
John G. Jones, Wilkes-Barre, Pa.

Buckley Allebach, Plymouth, Pa.
George Picton, Plymouth, Pa.
A total number of fifty-one, and all are in positions as mine foremen.

The number recommended for certificates of qualification was twenty-three, out of thirty-seven applicants. Their names are as follows:

*David D. Jones, Wilkes-Barre, Pa.
James D. James, Plymouth, Pa,
*Zachariah T. Kreiger, Plymouth, Pa.
Joshua Golightly, Plymouth, Pa.
William Allen, Sugar Notch, Pa.
*Iago Jones, Sugar Notch, Pa.
William H. Hosking, Jr., Sugar Notch, Pa.
John L. Griffiths, Nanticoke, Pa.
*William A. Thomas, Wilkes-Barre, Pa.
*Robert Magee, Nanticoke, Pa.
*John S. Armstrong, Kingston, Pa.
John F. Jones, Wilkes-Barre, Pa.
William T. Morgan, Wilkes-Barre, Pa.
Llewelyn Morgan, Wilkes-Barre, Pa.
David C. Powell, Kingston, Pa.
David Griffiths, Nanticoke, Pa.
David S. Isaacs, Plymouth, Pa.
Moses D. Evans, Kingston, Pa.
Job Thomas, Nanticoke, Pa.
Edward Williams, Peely, Luzerne county, Pa.
*David W. Evans, Nanticoke, Pa.
*Lewis L. Sarge, Miner's Mills, Pa.
*Evan P. Davies, Hyde Park, Scranton, Pa.

Prosecution for Violation of the Mine Laws.

On the third day of December, 1884, John Novitzky was sued for violation of the mine laws, and on the tenth of January, 1885, he was indicted by the grand jury on the same charge. The case was postponed, from one term of court to the other, until June 28, 1886, when it was tried, the verdict being, "The defendant not guilty, but to pay the costs."

The inspector entered this suit after being advised to do so by the district attorney, intending that it should be tried promptly; but, despite all his efforts to that effect, it was postponed from one term to another for a year and a half, and the effect intended to produce was entirely lost through the long and tedious delay.

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*Those having a star (*) affixed are in positions as mine foremen, having been engaged as such since, or a short time prior to, receiving their certificates.

Colliery Improvements During 1886.

The desire for improvement was not very active during the year 1886. The demand for coal and the price received for it were not such as would encourage expensive outlays to obtain it. The improvements, therefore, were confined chiefly to what was necessary to maintain the existing production.

Susquehanna Coal Company.

At the No. 1 deep shaft of this company a new fan was erected, twenty-five feet diameter, and of the Guibal pattern. This was found necessary to ventilate the workings of the red ash seam, which are becoming extensive and require a large volume of air.

In the George seam of the same shaft a slope is being sunk to reach the coal lying below the shaft gangway. The hoisting engine will be located on the surface and the rope passed down through a bore-hole already made for that purpose.

At the Newport shaft a second opening was effected for the upper seam, and another is being driven for the lower seam. The second openings for the tunnel seams and also for the slope were completed.

Lehigh and Wilkes-Barre Coal Company.

The new shaft which is being sunk by this company at South Wilkes-Barre, and which is named Tillinghast shaft, was at a depth of eight hundred feet at the close of the year, having passed the Hillman vein a short distance. It is a large shaft, fifty-two by twelve feet, and located a short distance south-west of the old South Wilkes-Barre shaft; was started in 1884, and operations have been going on continually since.

At the Nottingham colliery a new shaft was started for the purpose of improving the ventilation. It will be divided into two compartments, one an upcast and the other a downcast. It will be used chiefly to ventilate the workings of the Ross vein, which are now spreading extensively.

At the Hollenback colliery an underground slope was completed. The hoisting engine is located on the surface and the rope passed down through a bore-hole. It works admirably. Signals are given by electric bells, and conversation between the engineer and inside men effected by telephone.

Delaware and Hudson Canal Company.

Work is continued in the Baltimore shaft of this company, driving passages toward the No. 2 Baltimore shaft. The latter was standing idle until the close of the year, having been stopped upon sinking it to the rock. It was walled with a thick, cement-laid stone from the rock to the surface, and was left to stand idle for several months after, but preparations are being made now to complete its sinking.

At the No. 3 colliery, at Plymouth, a new fan, eighteen feet diam-

eter, was erected to ventilate the Boston mine, and it proved a very satisfactory appliance by increasing the ventilation to the desired extent.

Kingston Coal Company.

At the No. 1 shaft the endless-rope system of haulage was introduced, and it works well. I am informed also that the same system is contemplated to supersede a locomotive at the Gaylord mine, and that it will be adopted at each of this company's collieries at Edwardsville.

The new breaker at the No. 4 shaft laid idle throughout the year, but the main openings of the mine were driven and have opened a large territory ready for breast-work.

Delaware, Lackawanna and Western Company.

The Woodward shaft of this company is in progress of preparation for mining coal. Pumps are being put in place, and also the shaft cages. The breaker is also in course of erection, and it promises to be one of the largest producers in this region. At the Avondale mine a new fan, sixteen feet diameter, was placed on the new air-shaft. It works well, and is reported to exhaust 105,000 cubic feet of air per minute, under a ventilating pressure of eight tenths of an inch water gauge. To produce this pressure, it is running at a speed of eighty-five revolutions per minute.

Accidents in 1886.

The number of accidents causing injuries to workmen are still very frequent, but the number was less in 1886 than it was in each of the past five years, and we have good reasons to hope that the number will still be reduced in the future.

If the workmen, and especially the boys who are employed to drive and run cars, could be induced to exercise more care, the number of accidents could be greatly reduced. The rigid requirements of the new mine law were, no doubt, instrumental in bringing the number of accidents for 1886 down below its usual figure, and a more stringent enforcement of the rules laid down in that law would perhaps result in a further improvement.

There are serious disadvantages to a reduction in the list of accidents. The number of persons employed and the amount of coal produced increase every year, and if the number of accidents does not increase in the same proportion, a decided improvement is effected. And when we consider that the dangers of coal mining increase daily with the extension of the workings and the increase of depth in each mine, a non-increase in the list of accidents would be very gratifying, as well as an indication of improvement in the system of mining. The total number of serious accidents during the year 1886 was three hun-

dred and four, fifty-eight of which proved fatal. The fatal ones, all except six, are described in the list of accidents comprising Table No. 4 of this report, and a description of these six is here given.

ACCIDENT No. 27.—George Scott, a fireman, was fatally scalded by a boiler explosion at the No. 3 colliery of the Delaware and Hudson Canal Company, Plymouth township, July 8, 1886, and died therefrom the same evening. There were twelve boilers, located in nests of three, side by side, at this colliery. At about fifteen minutes to three o'clock, P. M., the deceased closed the valve to stop the steam-blower, and put the injector in motion to force water into the boilers, and in a few seconds after one of the boilers exploded with terrific force, tearing the boiler house into fragments, and throwing all the other boilers out of their position—five of them several yards away. Scott was found lying in a chute, about twenty feet from where the front ends of the boilers were while in position, and he was scalded severely Everything that could be done to relieve his pains was instantly applied, but he died that evening.

The boilers had been erected about seventeen years ago, but for five years they had not been used, the colliery having been idle. The iron of the fractured boiler was fully one quarter inch thick, of good quality, and it was evident that the explosion occurred in consequence of some abuse. Experts stated they believed, from the appearance of the fractured iron, that cold water, injected while the boiler plates were too hot, caused the explosion, but the engineer stated that the water was at the usual height in the boilers when the injector was set in motion, and if that was so, the boilers could not have been too hot. The engineer had not tested it himself, but the fireman had told him so a few minutes before the explosion. However, the circumstances showed evident signs that the boilers had suffered abuse, and that the explosion was not the result of their unsafe condition.

ACCIDENTS Nos. 36 AND 37.—Lewis R. Richards, a mason, and Griffith R. Thomas, a company laborer, were both instantly killed in the Dodson mine, Plymouth Coal Company, on August 7, 1886, in the following manner: On Thursday morning, August 5, a fall of rock came on the gangway at the intersection of an old breast from a lift below. This was nearly all cleared away during Thursday and Friday and Saturday morning. Richards and Thomas were sent to help. There were four or five persons working there besides them. The two named went to work, throwing rock down the old breast, and were standing a distance of three or four feet from the side of the counter gangway, when suddenly a large fall of rock came upon them and buried them underneath. Daniel Edwards, who was standing near by, had a very narrow escape. Seeing the roof sinking, he instantly jumped and barely saved himself. They had sounded the roof a short time before it fell, and concluded that it was safe, but the thickness and extent of

the loose rock was such that its sound deceived them. It was twenty-two inches thick, eight by nine feet area, and cut on three sides by unseen seams.

Accidents Nos. 44, 45, and 46.—Thomas Clement, a miner, Adam Zeperko and Wadick Ginofski, laborers, were severely burned by an explosion of gas in the No. 1 slope of the Susquehanna Coal Company, at Nanticoke, October 12, 1886. Clement died the following morning, Zeperko died October 22, and Ginofski October 31. John Zeperko, another miner, was painfully burned at the same time, but he recovered in a few weeks. These men were working together, driving a counter gangway across breasts in the Twin vein, and its face had passed the third breast from where it started. Soon after going to work on the morning of October 12, Clement was in the fourth breast, a few feet above the line of the gangway, preparing to stand props, when gas ignited from his lamp, followed by an explosion. There was a large quantity of gas, for it ignited at a point fifty feet down from the face of the breast. These series of breasts had finished working, and had not been examined that morning. The fire-boss had been at the point where it fired, but had not gone to the face, taking it to be safe because he found the air passing as usual. The law does not require abandoned workings to be examined oftener than once per week, but there are cases frequently where an examination should be made daily, and this was evidently one of such cases. The inspector requested that it should be done after this accident took place. He did not know the circumstances until his attention was called to them by this accident, but the foreman and fire-bosses, who direct the work, knew of these places, and they should have exercised the necessary care. If the fire-boss had done what was plainly evident should have been done, this accident would have been easily averted.

Accident No. 53.—Thomas O'Brien, a miner, was fatally burned by an explosion of gas in the Conyngham shaft, Delaware and Hudson Canal Company, at Wilkes-Barre, November 26, 1886, and died November 28. Thirty-one other persons were painfully burned, and perhaps a dozen more very slightly injured by the same explosion.

The fact that so many persons were burned at once created some excitement and much criticism, and in this the prejudice of some people became painfully evident.

The workmen descended the Conyngham shaft on the 26th of November before seven o'clock A. M., and because the water was full in the sump and threatened to cover the tracks at the foot of the shaft, they waited there, thinking that when the foremen would say something in the matter they would decide to stop working.

At about five minutes after seven o'clock the deceased, Thomas O'Brien, followed by Cornelius Boyle, without consent from the officers, left their fellow-workmen and went in to the west air-way to

the entrance of the sump. O'Brien went in first, and was in a stooping position, when Boyle followed him in through the door, having his lamp on his head, and instantly gas, which had accumulated in the sump above the water, exploded. The flame, extending out to where the waiting workmen were assembled, burned the largest number more or less, according to their positions. Those who were on their feet, on the lower side of the gangway, were burned most severely, but the larger number were only slightly burned, and were at work again in about a week thereafter.

The cause of gas accumulating at that point was that on Thanksgiving day the steam pipe on the boilers had to be repaired, and this caused the pump to stop for about six hours. During that time water was accumulating in the sump. It being a very wet season, the pump, after being started, failed to lower the water below the roof before the next morning, when the explosion occurred. No air could pass through the sump while a portion was filled to the roof with water, consequently the gas, evolving rapidly from the solid strata below, accumulated in the portion not filled with water.

At about four o'clock, the morning of the 26th, the fire-boss examined this place and discovered the gas. He renewed a danger-mark, which had been placed at the entrance of the passage leading to the air-way, somewhere about eighty feet outside of where the edge of the gas was found. Before work was started, the two persons named went in over the boards which had been fixed across the entrance, with danger-marks on, and then through the door, which was covered with danger-marks, and on to the mouth of the sump, where their lamps fired the gas. In my experience with mines for a period of thirty-three years, I never saw or heard of a more reckless act than was committed by these men. Every miner knows that it is not safe to enter abandoned workings at any time, unless they are previously examined, and ascertained to be safe. But here, when all knew that the water was full in the sump, and that it was impossible for the air current to pass through to ventilate it, they walked deliberately over the danger-marks, into the very seat of danger, and exploded the gas. In doing this, they went a distance of at least three hundred feet off the course where any miner needed to go in order to reach his working place, and to a place where no one thought a person would attempt to go, even if no danger-signals were put up.

A map of a section of the workings is herewith appended, a perusal of which will assist in understanding the circumstances of the accident. All the workings west of the man-way E were finished and abandoned, and no one needed to go farther than that point to his work. When the sump became blocked at H, the air current reversed, passing in through the openings above, and on side of the door at B, and in through the west air-way; but this could not ventilate the

sump, and, consequently, the gas accumulated out to the intersection of the air-way at B. O'Brien and Boyle passed in over the danger-boards at A, and in through the door to the point B, and fired the gas. If they had not done this, nothing could have happened, because, as soon as the water in the sump would be lowered below the roof, the gas would be conveyed directly to the upcast. The quantity of gas was not very large, as is shown by the extent of damage done, which, if it had not burned the men, would have been very slight.

It is impossible to keep mines, in which fire-damp is evolved freely, in a perfect state of safety from this dangerous element, and when a small quantity unavoidably exists, and proper signs to indicate its presence, or to indicate danger, are placed across the entrances to such places, men should have sense enough to keep out. When they do act so recklessly as to go into such places, where they have no business to go, they, and they alone, should bear the odium of the result, and should not, in any case, be exonerated from blame. But in this case a coroner and a jury, which were biased and prejudiced, evidently considering these men irresponsible, like mules, laid the blame on the company and censured the inspector. The gas accumulated, because the sump was too full of water; this was a result of stopping the pump on Thanksgiving day. At four o'clock the next morning the fire-boss first discovered the gas, and at five minutes after seven it was fired. The inspector knew nothing of its existence, nor that it was possible or liable to accumulate there, and the officials of the mine had not had time to do anything. Had they expected that these persons would have gone where they did, they could, and would undoubtedly, have watched and prevented them, and this would have been the only rational way of averting this direful accident.

TABLE No. 1—Showing Location of Collieries in the Third Anthracite Mine District.

NAME OF COLLIERY.	Name of Operator.	Location—Luzerne County.	Name of Superintendent.	Post-Office Address.
Diamond,	Lehigh and Wilkes-Barre Coal Company,	Wilkes-Barre,	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Wilkes-Barre, Pa.
Hollenback,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Empire,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Stanton,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
South Wilkes-Barre,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Jersey,	Do. do.	Ashley,	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Sugar Notch shaft,	Do. do.	Sugar Notch,	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Sugar Notch slope,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Lance No. 1,	Do. do.	Plymouth,	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Nottingham,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Reynolds,	Do. do.	Do.	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Wanamie,	Do. do.	Wanamie, Newport twp.,	T. H. Phillips; W. T. Smyth and S. Tonkin, assistants.	Do.
Baltimore slope,	Delaware and Hudson Canal Company,	Wilkes-Barre township,	A. H. Vandling,	Providence, Scranton, Pa.
Baltimore tunnel,	Do. do.	Wilkes-Barre,	C. H. Scharar, engineer,	Do. do.
Baltimore shaft,	Do. do.	Do.	Do. do.	Do. do.
Conyngham,	Do. do.	Do.	Do. do.	Do. do.
Boston,	Do. do.	Plymouth township,	Do. do.	Do. do.
No. 2 Plymouth,	Do. do.	Plymouth,	Do. do.	Do. do.
No. 3 Plymouth,	Do. do.	Do.	Do. do.	Do. do.
No. 4 Plymouth,	Do. do.	Do.	Do. do.	Do. do.
No. 5 Plymouth,	Do. do.	Do.	Do. do.	Do. do.
No. 4 tunnel,	Susquehanna Coal Company,	Nanticoke,	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Wilkes-Barre, Pa.
No. 1 slope,	Do. do.	Do.	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Nanticoke, Pa.
No. 2 slope,	Do. do.	Do.	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Do.
No. 3 slope,	Do. do.	West Nanticoke,	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Do.
No. 4 slope,	Do. do.	Nanticoke,	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Wilkes-Barre, Pa.
No. 1 shaft,	Do. do.	Do.	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Nanticoke, Pa.

No. 2 shaft,	Do. do.	Do.	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Do.
Newport shaft,	Do. do.	Morgantown,	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Do.
Newport slope,	Do. do.	Do.	I. A. Stearns, general manager, and G. T. Morgan, general superintendent.	Do.
Newport tunnel,	Do. do.	Do.	I. A. Stearns, general manager and G. T. Morgan, general superintendent.	Do.
No. 1 shaft,	Kingston Coal Company,	Edwardsville,	Daniel Edwards,	Kingston, Pa.
No. 2 shaft,	Do. do.	Do.	Do.	Do.
No. 3 shaft,	Do. do.	Do.	Do.	Do.
No. 4 shaft,	Do. do.	Do.	Do.	Do.
Gaylord,	Do. do.	Plymouth,	Do.	Do.
Alden tunnel,	Alden Coal Company,	Alden,	K. M. Smith,	Alden, Luzerne co., Pa.
Alden shaft,	Do.	Do	Do.	Do. do.
Avondale,	Delaware, Lackawanna and Western Railroad Company.	Plymouth township,	W. R. Stous, general manager; B. Hughes, general inside foreman; W. H. Stous, general outside foreman.	Scranton, Pa.
Woodward, No. 1,	Delaware, Lackawanna and Western Railroad Company.	Do. do.	W. R. Stous, general manager; B. Hughes, general inside foreman; W. H. Stous, general outside foreman.	Do.
Woodward, No. 2,	Delaware, Lackawanna and Western Railroad Company.	Do. do.	W. R. Stous, general manager; B. Hughes, general inside foreman; W. H. Stous, general outside foreman.	Do.
Chancery,	T. P. Macfarlane,	Do. do.	T. P. Macfarlane,	Kingston, Pa.
Dodson,	Plymouth Coal Company,	Plymouth,	James B. Davies,	Plymouth, Pa.
Dorranee,	Lehigh Valley Coal Company,	Wilkes-Barre,	Fred. Mercur,	Wilkes-Barre, Pa.
East End,	West End Coal Company,	Mocanaqua,	John Teasdale,	Shickshinny, Pa.
West End,	Do. do.	Do.	Do.	Do.
Franklin slope,	Franklin Coal Company,	Wilkes-Barre,	R. R. Morgan,	Wilkes-Barre, Pa.
Brown slope,	Do. do.	Do.	Do.	Do.
Rock slope,	Do. do.	Do.	Do.	Do.
Hillman shaft,	Hillman Vein Coal Company,	Do.	E. L. Parrish,	Do.
Maffet shaft,	Hanover Coal Company,	Sugar Notch,	J. Roberts, Jr.,	Do.
Maffet tunnel,	Do. do.	Do.	Do.	Do.
No. 1 Red Ash,	Red Ash Coal Company,	Wilkes-Barre township,	M. B. Williams,	Do.
No. 2 Red Ash,	Do. do.	Do. do.	Do.	Do.
Warrior Run,	A. J. Davis,	Hanover township,	A. J. Davis,	Do.
Parrish,	Parrish Coal Company,	Plymouth,	H. H. Ashley,	Plymouth, Pa.
Salem,	Salem Coal Company,	Shickshinny,		Shickshinny, Pa.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Third Anthracite Mining District for the year ending December 31, 1886.

LEHIGH AND WILKES-BARRE COAL COMPANY,

NAME OF COLLIERIES.	Location—Luzerne County.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
1. Diamond,	Wilkes-Barre,	136,606	136,606	186	450	. . .	3	3,887	24	56	1
2. Hollenback,	Do.	207,881	190,755	191	627	2	11	5,891	30	43	
3. Empire,	Do.	258,321	255,640	187	729	3	10	6,598	30	44	2
4. Hartford or Jersey,	Ashley,	145,172	141,307	189	504	2	2	4,454	24	21	1
5. Stanton,	Wilkes-Barre,	217,954	212,926	181	603	1	10	4,219	40	56	1
6. Sugar Notch shaft,	Sugar Notch,	166,732	164,413	186	592	1	7	6,287	23	46	1
7. Sugar Notch slope,	Do.	*	. . . .	. . .	28	. . .	2	. . . .	26	5	
8. Lance No. 11,	Plymouth,	182,452	172,756	189	513	5	8	5,900	12	43	
9. Nottingham,	Do.	441,519	436,921	185	1,073	1	9	10,039	29	96	2
10. Reynolds,	Do.	142,994	141,947	185	515	. . .	1	4,196	13	55	
11. Wanamie,	Newport township,	139,735	138,022	188	484	1	3	5,421	13	60	1
12. South Wilkes-Barre,	Wilkes-Barre,	†	. . . .	. . .	38	. . .	2	101	6	2	
Totals—Lehigh and Wilkes-Barre Coal Company,		2,042,370	1,991,297	*186	6,156	16	68	56,993	270	527	9

N. B.—The coal consumed to generate steam at the mines is not included in the above. * Was not in operation. †Average.

DELAWARE AND HUDSON CANAL COMPANY.

13. Baltimore slope and shaft,	Wilkes-Barre township,	61,070	61,070	184	199	2	2	1,877	17	28	
14. Baltimore Tunnel,	Do.	110,942	108,701	191	346	. . .	1	3,997	19	44	2
15. Conyngham,	Do.	91,303	89,292	181	260	1	40	2,507	14	28	
16. Boston,	Plymouth township,	126,516	126,516	173	328	. . .	3	3,598	15	35	1
17. Nos. 1 and 2,	Plymouth borough,	115,236	115,236	184	391	. . .	2	4,070	21	46	
18. No. 3,	Do.	166,982	164,838	192	432	2	. . .	5,811	12	49	
19. No. 4.	Do.	124,099	124,099	177	376	1	1	4,763	12	40	
20. No. 5,	Do.	168,691	166,086	186	420	2	3	4,691	15	52	1
Totals—Delaware and Hudson Canal Company,		964,842	955,871	*179	2,752	8	52	31,314	125	322	4

N. B.—Only 60 tons of the above production was consumed to generate steam at the mines. *Average.

SUSQUEHANNA COAL COMPANY.

21. No. 1 slope, 22. Nos. 1 and 4 tunnel, Breaker No. 1,	Nanticoke,	219,160	1,581,286	283	402	5	4	40,706	26	39	1
						1	1				
23. No. 1 shaft, 24. Deep shaft, 25. No. 2 slope, Breaker No. 2,	Nanticoke,	504,440		290	1,548	1	10 8		74	167	6
26. Grand tunnel No. 3,	West Nanticoke,			228	360	1 2	9 4		29	31	1
27. No. 2 shaft, 28. No. 4 slope, Breaker No. 5,	Nanticoke,	214,194		293	1,117	2 2	7 7		66	171	2
29. Newport tunnel, 30. Newport shaft, 31. Newport slope, Breaker No. 6,	Newport township,	547,677 146,386		299	941	3	4 4		84	55	1
Totals—Susquehanna Coal Company,		1,631,860	1,581,286	279	4,368	17	58	40,706	279	463	11

N. B.—Coal consumed to generate steam at the mines is not included.

KINGSTON COAL COMPANY.

32. Nos. 1 and 4 shafts,	Edwardsville,	217,629	205,779	232	416	2	2	6,428	34	46	
33. Nos. 2 and 3 shafts,	Do.	341,557	333,796	231	771	4	10	8,298	29	70	
34. Gaylord,	Plymouth,	173,356	173,012	173	477	1	12	4,320	24	39	1
Totals—Kingston Coal Company,		738,543	712,587	212	1,664	7	24	19,046	87	155	1

N. B.—17,957 tons of the above was consumed to generate steam at the mines.

MISCELLANEOUS COAL COMPANIES.

35. Alden,	Newport township,	199,909	193,248	221	535	. . .	6	8,575	12	48	
36. Avondale,	Plymouth township,	172,011	128,830	188	420	1	7	3,931	26	66	1
37. Chauncey,	Do.	15,628	15,228	162	66	. . .	. . .	420	. . .	8	
38. Dodson,	Plymouth,	149,189	136,855	181	351	3	3	5,550	12	39	
39. Dorrance,	Wilkes-Barre,	42,904	33,128	222	132	1	5	2,063	12	12	
40. East End,	Mocanaqua,	*									
41. West End,	Do.	141,196	128,732	264	343	1	. . .	4,400	19	38	
42. Franklin,	Wilkes-Barre,	128,335	115,292	186	471	1	5	2,277	43	18	2
43. Hillman vein,	Do.	40,470	25,084	148	146	. . .	3	1,919	9	12	
44. Maffet,	Sugar Notch,	120,618	119,643	164	329	1	4	4,020	6	20	
45. Parrish,	Plymouth,	269,053	205,101	279	443	. . .	1	6,960	3	53	
46. Red Ash No. 1,	Wilkes-Barre township,	115,820	115,820	163	318	. . .	6	4,072	6	24	
47. Red Ash No. 2,	Do.	131,957	129,781	162	350	1	3	4,331	2	23	
48. Salem,	Shickshinny,	18,832	10,491	141	69	1	. . .	480	2	10	
49. Warrior Run,	Warrior Run,	76,774	63,564	154	243	. . .	1	1,385	20	19	
50. Woodward,	Edwardsville,	†	. . . . .	. . .	46	. . .	1	. . . .	12	17	
Totals—Miscellaneous coal companies,		1,557,698	1,440,798	‡188	4,262	10	45	50,883	189	407	3

N. B.—63,030 tons, included in the above, was consumed to generate steam at the mines. *Did not work. †No breaker. ‡Average.

TABLE No. 2—*Continued*.

RECAPITULATION.

NAME OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Lehigh and Wilkes-Barre Coal Company,		2,042,370	1,991,297	186	6,156	16	68	56,993	270	527	9
Delaware and Hudson Canal Company,		964,842	955,841	179	2,752	8	52	31,3 4	125	322	4
Susquehanna Coal Company,		1,631,860	1,581,286	279	4,368	17	58	40,706	279	463	11
Kingston Coal Company,		738,543	712,587	212	1,661	7	24	19,016	87	155	1
Miscellaneous Coal Companies,		1,557,698	1,440,798	188	4,262	10	45	50,883	189	407	3
Total—All coal companies,		6,935,315	6,681,812	*209	19,202	58	247	198,942	950	1,874	28

N. B.—The culm and buckwheat coal used to generate steam at the mines is not included in this table, but the sum of 80,047 tons of larger sizes is included. There were 86 persons employed in mines not included in the above table, adding which makes a total number of 19,242 persons employed in and about the mines at the close of 1886.

Fractions of tons added but omitted in tables.

*Average.

TABLE No. 3—Showing the number of each class of employés at each colliery in the Third Anthracite Mine District, during the year 1886.

LEHIGH AND WILKES-BARRE COAL COMPANY.

Names of Collieries.	Location—All in Luzerne county.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Mechanics.	Head and plate men.	Slate-pickers.	All company men.	Superintendent, book-keepers and clerks.	Total outside.	
1. Diamond,	Wilkes-Barre,	1	65	70	43	60	25	264	1	13	13	112	46	1	186	450
2. Hollenback,	Wilkes-Barre,	1	129	141	103	30	31	435	1	19	17	108	43	1	192	627
3. Empire,	Wilkes-Barre,	1	150	150	58	55	25	439	1	2	30	200	56	1	290	729
4. Hartford or Jersey,	Ashley,	1	115	110	30	21	20	297	1	21	19	135	30	1	207	504
5. Stanton,	Wilkes-Barre,	1	111	122	30	71	30	368	1	15	18	158	42	1	235	603
6. Sugar Notch shaft,	Sugar Notch,	1	122	122	53	35	25	358	1	11	22	153	46	1	234	592
7. Sugar Notch slope,	Sugar Notch,	1	.	.	17	. .	.	18	.	. .	. .	. .	10		10	28
8. Lance, No. 11,	Plymouth,	1	119	106	56	35	31	348	1	8	11	110	34	1	165	513
9. Nottingham.	Plymouth,	1	245	182	110	82	48	668	1	6	23	313	55	2	405	1,073
10. Reynolds,	Plymouth,	1	110	112	31	41	37	332	1	5	10	125	41	1	183	515
11. Wanamie,	Newport township,	1	128	90	39	37	34	329	1	11	20	90	32	1	155	484
12. South Wilkes-Barre,	Wilkes-Barre,	1	6	12	7	2	2	30			2	. .	6	. .	8	38
Totals Lehigh and Wilkes-Barre Coal Company,		12	1,300	1 217	577	472	308	3,886	10	111	190	1,504	444	11	2,270	6,156

DELAWARE AND HUDSON CANAL COMPANY.

13. Baltimore slope,	Wilkes-Barre township,	2	31	31	18	17	3	102	1	3	4	54	35	1	98	200
14. Baltimore shaft,	Wilkes-Barre township,															
15. Baltimore tunnel,	Wilkes-Barre,	1	70	60	29	30	7	197	1	13	7	90	38	. .	149	346
16. Conyngham,	Wilkes-Barre,	1	45	45	38	32	6	167	1	4	5	55	28	.	93	260
17. Boston,	Plymouth township,	1	68	68	38	20	14	209	1	6	6	60	46		119	328
18. No. 2,	Plymouth,	2	78	78	52	45	14	269	1	9	6	70	35	1	122	391
19. No. 3,	Plymouth,	1	101	101	35	49	26	313	1	6	4	72	35	. .	118	432
20. No. 4,	Plymouth,	1	75	72	38	40	21	247	1	9	8	88	23	. . .	129	376
21. No. 5,	Plymouth,	1	82	72	75	48	29	307	1	8	9	59	36	.	113	420
Total,		10	550	527	323	281	120	1,811	8	58	49	548	276	2	941	2,752

SUSQUEHANNA COAL COMPANY.

NAMES OF COLLIERIES.	Location—All in Luzerne county.	NUMBER OF PERSONS EMPLOYED INSIDE.							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Mechanics.	Head and plate men.	Slate-pickers.	All company men.	Superintendent, book-keepers and clerks.	Total outside.	
22. No. 1 slope, } Breaker 23. Nos. 1 and 4 tunnel, } No. 1. 24. No. 1 shaft,	Nanticoke,	1	80	117	21	23	9	251	1	. . .	8	68	74	3	151	402
25. No. 1 deep shaft, } Breaker No. 2. 26. No. 2 slope,	Nanticoke,	3	295	560	131	149	73	1,151	1	4	19	159	214		397	1,548
27. No. 3 grand tunnel,	West Nanticoke,	1	66	87	25	14	5	198	1	. .	6	106	46		162	360
28. No. 2 shaft, } Breaker No. 5, 29. No. 4 slope, }	Nanticoke,	2	205	385	115	102	46	855	1	4	14	142	101		262	1,117
30. Newport tunnel, 31. Newport shaft, } Breaker No. 6, 32. Newport slope,	Morgantown,	2	222	340	38	37	18	657	1	2	10	195	76		284	941
Totals Susquehanna Coal Company,		9	868	1,429	330	325	151	3,112	5	10	57	670	511	3	1,256	4,368

KINGSTON COAL COMPANY.

33. Nos. 1 and 4 shafts,	Edwardsville,	3	90	83	32	40	22	270	2	1	5	111	27		146	416
34. Nos. 2 and 3 shafts,	Edwardsville,	4	195	180	34	56	44	513	1	19	20	174	44	.	258	771
35. Gaylord,	Plymouth,	2	132	46	19	49	7	255	2	16	26	136	42	.	222	477
Totals Kingston Coal Company,		9	417	309	85	145	73	1,038	5	36	51	421	113	. . .	626	1,664

MISCELLANEOUS COAL COMPANIES.

36. Alden,	Newport township,	1	158	131	20	43	11	364	1	11	20	115	23	1	171	535
37. Avondale,	Plymouth township,	2	103	107	36	17	10	275	1	11	13	85	35		145	420
38. Chauncey,	Plymouth township,	1	14	14	2	9	1	41	1	2	2	14	5	1	25	66
39. Dodson,	Plymouth,	1	80	58	29	50	20	238	1	5	9	55	42	1	113	351
40. Dorrance,	Wilkes-Barre,	2	23	23	12	9	4	73	2	11	5	25	15	1	59	132
41. East End,	Mocanaqua,	Did not work during 1886.														
42. West End,	Mocanaqua,	2	104	79	30	28	3	246	1	7	9	41	37	2	97	343
43. Franklin,	Wilkes-Barre,	1	80	70	48	27	19	245	1	26	14	60	124	1	226	471
44. Hillman shaft,	Wilkes-Barre,	1	29	35	25	6	11	107	1	6	4	22	6		39	146
45. Maffet,	Sugar Notch,	1	70	70	9	20	11	181	1	14	18	92	21	2	148	329
46. Parrish colliery,	Plymouth,	1	86	86	54	40	8	275	1	9	8	121	28	1	168	443
47. Red Ash, No. 1,	Wilkes-Barre township,	1	98	45	12	23	10	189	1	3	9	59	56	1	129	318
48. Red Ash, No. 2,	Wilkes-Barre township,	1	99	78	9	25	12	224	1	3	14	49	57	2	126	350
49. Salem,	Shickshinny,	1	15	15	6	4	1	42	1		3	15	5	3	27	69
50. Warrior Run,	Hanover township,	1	75	51	10	9	12	158	1	4	7	49	21	3	85	243
Totals miscellaneous coal companies.		17	1,034	862	302	310	153	2,658	15	112	135	802	475	19	1,558	4,216

RECAPITULATION.

Lehigh and Wilkes-Barre Coal Company,	12	1,300	1,217	577	472	308	3 886	10	111	190	1,504	444	11	2.270	6,156
Delaware and Hudson Canal Company,	10	550	527	323	281	120	1,811	8	58	49	548	276	2	941	2 752
Susquehanna Coal Company,	9	868	1,429	330	325	151	3,112	5	10	57	670	511	3	1 256	4 368
Kingston Coal Company,	9	417	309	85	145	73	1.038	5	36	51	421	113	. . .	626	1 664
Miscellaneous Coal Companies,	17	1,034	862	302	310	133	2,658	15	112	135	802	475	19	1,558	4,216
Totals of all coal companies,	57	4,169	4,344	1,617	1,533	785	12,505	43	327	482	3,945	1,819	35	6,651	19,156

N. B.—In addition to the above there were 40 employed sinking at the Tillinghast shaft, and 46 at the Woodward shaft, adding which would make a total of 19,242 persons.

TABLE No. 4—List of fatal accidents occurring in and about the Mines of the Third Anthracite Mine District, for the year ended December 31, 1886.

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 13	1	George Sage, . . .	Miner, ...	55	. .	. .	Gaylord, ...	Plymouth, Luzerne,	Instantly killed—caught between the cage and roof of gangway.
20	2	John Corrigan, . .	Not empl'd, . .	. .	. .	. .	No. 4 shaft, ...	Plymouth, do.	Was in the mine looking for employment, and when on his way out cars ran over him, injuring him so that he died in one hour after.
Feb. 8	3	Andrew Hadonski,	Plate-man, .	26	. .	. .	Hollenback, ...	Wilkes-Barre, do.	Had been away from his work, and while returning, past the end of the mud-screen, went too close, and his clothing caught in the cog-wheels and pulled him in. His side was crushed in, and he died in a few minutes.
17	4	William Benson, .	Laborer, . . .	53	1	1	No. 5 breaker, ...	Nanticoke, do.	Killed by being run over by a trip of rock-cars, under the breaker. He saw the cars coming, and there was ample room to get out of the way, but running across the track in front of the cars, undecided which side to go, he was struck down and killed.
17	5	Samuel Crouser, .	Loader, . . .	37	1	3	No. 3 breaker, ...	Plymouth twp., do.	Head jammed between two railroad cars while coupling them together. Died February 20.
19	6	Edward B. Davies,	Laborer, . . .	36	1	3	Dodson, ...	Plymouth, do.	Instantly killed by a fall of rock. He heard the roof cracking, and attempted to cross under it to the other side, when it fell on him.
20	7	Thomas Palmer, .	Laborer, . .	47	. .	. .	No. 5 shaft, ...	Plymouth, do.	While loading a car at the face of a breast, a fall of bone and rock came upon and hurt him so that he died in about ten minutes. He and the miner had been trying to pull the bone down, and had failed. Then they concluded that it was safe, and went to work under it.

Feb	26	8	M. P. Brennen, . .	Miner, ...	29	. .	. .	No. 1 shaft, ...	Kingston, Luzerne,	He borrowed a touch-squib from another miner, and while firing a shot he stayed too long trying to get the match to flame, and the blast exploded before he got away. He was injured so that he died on the evening of February 27.
Mar.	1	9	William Roberts, .	Driver, . .	24	. .	. .	Lance No. 11, ...	Plymouth, do.	Severely injured by falling under cars. Died at the Wilkes-Barre Hospital, March 13.
	9	10	Edw. McAligate, .	Miner, . . .	45	1	9	Avondale, ...	Plymouth township, do.	Having not come home in the usual time, his sons went into the mine to look for him, and found him buried under a mass of coal, dead. From the appearance of the place, it was supposed that he was returning to renew a squib, thinking it missed, and upon approaching the hole the blast fired, throwing the coal down upon him.
	25	11	John Horam, . . .	Laborer, . . .	36	. .	. .	No 1 shaft, ...	Kingston, do.	Upon approaching the foot of the shaft he attempted to board an ascending cage, and was caught between it and the roof of the gangway. This was the result of pure recklessness. He was told to stop but did not heed it.
	30	12	John C. Parry, . .	Miner, ...	35	1	2	Newport tunnel, ...	Morgantown, do.	While drilling a hole at the face of breast a projecting piece of rock fell on him and his laborer, Charles Howey. The latter was severely hurt, and the former fatally. He died on the way home.
April	1	13	James Sweeney, .	Laborer, . . .	28	. .	. .	Baltimore slope, ...	Wilkes-Barre twp., do.	Was cleaning the track, near the face of breast, when a piece of boney coal fell on him from a height of thirteen feet. He died from his injuries the following day.
	8	14	Frank O'Neil, . . .	Miner, ...	23	. .	. .	No. 1 slope, ...	Nanticoke, do	While at work clearing a fall of rock, another piece from above fell on him, killing him instantly.
	14	15	Hubbard Quinn, .	Laborer, . . .	26	1	. .	No. 3 shaft, ...	Kingston, do.	Fatally hurt and died in about fifteen minutes after. He was laboring with Ola Flosson in a breast. A piece of rock projecting out from the face, which they had sounded and thought safe, suddenly fell on him, injuring him as stated.

TABLE No. 4—*Continued.*

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Apr. 20	16	John Stevens, . . .	Laborer, . . .	32	1	2	Newport tunnel, ...	Morgantown, Luzerne,	Fatally injured by a fall of rock. He was working in a breast; went under the tier of rock, which was under the top coal to throw coal back. The rock was thought to be safe; but it fell on him crushing him down on his face into the broken coal. At first they thought that he was not seriously injured, but he died April 27.
May 12	17	Charles Stein, . .	Miner, ...	30		. .	Empire, ...	Wilkes-Barre, do.	Instantly killed. Was opening a breast on the gangway; had worked only a few hours there, when a large flake of rock, twenty-two feet long by twelve feet wide, and varying from three to six inches in thickness, fell on him and killed him. Jenkin Evans, a driver, was stricken down by the same fall, but he escaped with very slight injury.
May 13	18	William Kinney, .	Miner, . . .	30	1	2	No. 9 shaft, ...	Sugar Notch, do.	About 3.30 P. M. he had fired a shot and was prying the loose coal down, when a piece of the bench above fell unexpectedly and crushed his head against the bottom bench as it fell. He was instantly killed.
June 2	19	John D. Lewis, . .	Miner, ...	56		.	Nottingham, ...	Plymouth, do.	He was drilling a hole in the middle bench when a piece of coal fell from the face above him, killing him instantly. A slip which could not be seen caused it to fall so unexpectedly. His laborer very narrowly escaped injury.

5	20	William Dykes, .	Laborer, . . .	22	. .	. .	No. 2 slope, ...	Nanticoke,	do.	Was instantly killed by a fall of rock. He and the miner, David H. Davies, were working at the face of a breast when a large conical piece of rock, six feet by three in area and about two feet thick in center, unexpectedly fell on them, killing Dykes, and injuring Davies very severely. The place was very well timbered, and the rock fell between the props and face where no suspicion of danger existed.
8	21	Simon Lobyoniski,	Laborer, . . .	22	1	1	No. 2 Red Ash, ...	Wilkes-Barre,	do.	Instantly killed by a fall of coal. He was about going to sit down under a piece of loose coal; the miner told him not to sit there, because the coal above him was loose. He then took a pick and sounded it, whereupon it instantly fell on him and killed him.
10	22	Jere Zeigler, . . .	Miner, . . .	40	1	5	Salem, ...	Shickshinny,	do.	Fatally hurt by a fall of bone coal, and died the following day. He was working a distance of about one hundred feet from where he was hurt. The laborer called him back, stating that the roof was working over the point where the coal was thrown down into the car. He went back, and while descending through a hole between the lagging into the gangway, a piece of bone fell on him, causing the injury stated.
19	23	John Wascoe, . .	Miner, ...	32	1	4	No. 4 slope, ...	Nanticoke,	do.	While working taking a skipp off the pillar on lower side of gangway, a large flake of slate fell on him and his two laborers. He was killed and the laborers painfully injured.
22	24	Joseph Richards, .	Co. man, . .	53	1	3	Hollenback, ...	Wilkes-Barre,	do.	While repairing pulleys on the slope, a car got loose from the descending trip above, and it ran down and caught him while he was endeavoring to escape into the lower lift. It killed him instantly.
24	25	Evan D. Evans,	Miner, ...	43	1	5	Empire, ...	Wilkes-Barre,	do.	Instantly killed by a fall of rock. He had fired a blast in a bridge of top coal, which had failed to bring it down. While standing on a ladder prying the coal down, it came and broke the ladder under him, throwing him down over the coal. Instantly a fall of rock came upon him and killed him.

TABLE No. 4—*Continued.*

Date of accident.	No. of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	No. of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
July 6	26	Michael Potprotch,	Laborer, . . .	30	1	1	No. 2 shaft, ...	Kingston, Luzerne,	Instantly killed. He was working with a miner named Andrew Coslow. While working near the left rib of breast, a projecting piece of rock fell on him. It had been sounded that morning and prononnced safe.
8	27	George Scott, . . .	Fireman, . .	27	1	2	No. 3 shaft, ...	Plymouth township, do.	Fatally scalded by a boiler explosion, and died the same day. (For description, see another part of this report.)
8	28	John H. Williams,	Miner, ...	54	1	8	Maffet, ...	Sugar Notch, do.	While working loose coal out at the face of breast, a large lump fell from the overlying tier and killed him. He was an old, experienced miner, but was deceived as to his safety by an unseen slip, which caused coal, apparently safe, to fall without warning.
13	29	Anthony Albury, .	Miner, . . .	30	1		Newport tunnel, ...	Morgantown, do.	Killed by a fall of rock. The boss ordered him to put a prop up or pull the rock down, but before doing that, he went to work under it, and it fell upon him. He was found under it dead. No one witnessed the accident.
14	30	John Comiskey, . .	Miner, ...	37	1	2	West End, ...	Moconaqua, do.	Fatally hurt, and died upon reaching home. He fired a blast, which dislodged a prop, and while replacing the prop a thin flake of rock fell on him, causing the injury.
20	31	James McCarty, .	Miner, ...	50	1	8	Grand tunnel, ...	West Nanticoke, do.	While working a shot out, a large mass of top coal fell on him, injuring him so that he died shortly after being conveyed home.
24	32	William Apple, . .	Driver, .	15			No. 2 shaft, ...	Kingston, do.	Was riding on the front end of a trip of cars, stepped off to whip the mule, and fell under the cars. Both legs and one arm were broken. His injuries proved fatal on the 6th of August.

	27	33	Hugh Shanley, .	Door-boy, . .	16		. .	Lance No. 11, ...	Plymouth,	do.	Two cars were being run down a gangway--one was some distance behind the other. When the first passed, the deceased followed it, and was crushed by the second when it bumped. He was killed instantly.
	27	34	William Harris, . .	Sinker, ...	31	.	. .	Dorrance, ...	Wilkes-Barre,	do.	While working at the bottom of the shaft which was being sunk, a piece of rock came loose from the side of the shaft above and struck him, killing him instantly. It fell a distance of 70 feet before striking him.
Aug.	7	35	Mark Lavitch, . .	Laborer, . .	25	1	2	No. 2 shaft, ...	Nanticoke,	do.	A piece of rock fell from between two slips, while he was working near the face of the gangway, and killed him instantly.
	7	36	Lewis R. Richards,	Mason, . . .	58	1	2	Dodson, ...	Plymouth,	do.	Both were instantly killed by a fall of rock. (See another part of report.)
	7	37	Griffith R. Thomas,	Co-laborer, .	71						
	9	38	Matthias Dyer,	Miner, ...	45	1	1	No. 4 tunnel, ...	Nanticoke,	do.	Was fatally hurt by a fall of top coal while he was at work under it working loose coal out of the bottom bench. He lived about one hour after.
	23	39	John Daley, ...	Miner, ...	52	1	8	Franklin, ...	Wilkes-Barre,	do.	He was working alone, taking a skip off the lower rib. A large mass of the top bench of coal fell on the lower part of his body, and he was found pinned under it dead.
Sept.	10	40	John Hourat, . . .	Laborer, . . .	22	.	. . .	No. 5 shaft, ...	Plymouth,	do.	Killed by a fall of coal. Was at work poking coal loose at the face, and a piece fell on him and killed him. The miner told him to stop poking at the coal, but with no effect. Hourat wanted to practice to mine and persisted in doing so.
	13	41	John T. Jones, . .	Miner, ...	25			Empire, ...	Wilkes-Barre,	do.	While firing a blast, he, believing the squib had missed, returned to a point within a few feet of the hole, when the blast fired and instantly killed him.
Oct.	4	42	Patrick Shanley, .	Laborer, . . .	23			Lance No. 11, ...	Plymouth,	do.	Was at the face of breast picking coal loose, to finish loading a car, when a large piece of rock fell on him and killed him instantly.
	5	43	John Martin, . . .	Driver, ...	17	.	. .	No. 2 shaft, ...	Kingston,	do.	Instantly killed by being jammed between cars. He directed a miner to run his car down from his breast, and then went into the next, and ran that car down himself. Upon running this to the other branch, the miner's car came and jammed him between the two.

TABLE 4—Continued.

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Oct. 12	44	Thomas Clement, .	Miner, ...	45	1	2	No. 1 slope.	Nanticoke, Luzerne,	The three were fatally burned by an explosion of gas. Clement died the following morning. Zeperko died October 22, and Glnofski died October 31. (See description in the report.)
12	45	Adam Zeperko,	Laborer, . . .	50	1	3			
12	46	Wadick Glnofski, .	Laborer, . . .	28	1	3			
14	47	Anthony McCarrick	Helper, . . .	16	. .	.	Hartford, ...	Ashley, do.	While leading a team of mules pulling a trip of cars out of the gangway, the mule caused him to fall on the road, and the cars ran upon and killed him.
14	48	Charles Fletcher, .	Driver, . . .	16	. .	. .	Baltimore slope, ...	Wilkes-Barre twp., do.	Fell under an empty car on bank outside and was killed almost instantly.
Nov. 9	49	Wm. M. Perkins, .	Miner, ...	65	1	. .	Wanamie, ...	Newport twp., do.	Killed by a fall of coal; was working alone, and was found buried under a fall of top coal. No one witnessed the occurence.
Nov. 15	50	Peter Gerham, . .	Miner, ...	55	1	6	Hartford, ...	Ashley, do.	He called John Ureshan, another miner, to help him pry a piece of loose coal down, and while doing so, a piece of bone from above fell on him and killed him. Ureshan spoke to him about the bone and told him that he thought it was not safe, but the deceased assured him that it was. Ureshan escaped very narrowly.
Nov. 18	51	Stephen Lubash, .	Laborer, . . .	23	. .	. .	Stanton, ...	Wilkes-Barre, do.	Was killed by prying loose top coal down. He fell under it as it was falling; he did this against the protest of the miner.
Nov. 22	52	Enoch Pearson, . .	Miner, ...	42	1	5	Lance No. 11, ...	Plymouth, do.	While at work at the right side of breast, the other miner heard the roof working in that side, and shouted to the deceased to "look out." He was hard of hearing and did not go at once; when he did go, he went directly under the working piece of roof; it fell on him and killed him. There were four persons in the place, and all escaped but him.

Nov.	23	53	Thomas O'Brien, .	Miner, ...	27	1	. .	Conyngham, ...	Wilkes-Barre, Luzerne,	Fatally burned by an explosion of gas. Died November 28. (See report.)
Dec.	3	54	Thos. S. Phillips, .	Miner, ...	24	. .	. .	No. 2 shaft, ...	Nanticoke, ...	While coming toward the foot of the shaft at midnight, he fell into the cage-pit, and the pit having a depth of eighteen inches of hot water heated by a steam jet; he was severely scalded. This, with the exposure endured after, caused his death on the 5th of same month.
	4	55	John Martin, . . .	Slate-picker,	17	. .	. .	Lance No. 11, ...	Plymouth, do.	Instantly killed by being caught in a screen. He crawled through a low passage unknown to anyone, and was in some manner caught in the screen at an unseen point, and was discovered lying by it dead.
	14	56	John Rakowski, .	Laborer, . . .	35	1	3	Grand tunnel, ...	West Nanticoke, do.	Fatally hurt by a fall of rock. He was standing on the gangway when a piece of rock from a trough above fell on him. He died the following day.
	24	57	Daniel S. Dowles,	Miner, ...	50	1	2	No. 1 slope, ...	Nanticoke, do.	Was fatally injured while firing two shots at once. Going back thinking one squib had missed, the blast fired, injuring him so that he died on December 26.
	27	58	Thomas Kivler, . .	Laborer, . . .	26	.	. .	No. 1 deep shaft, ...	Nanticoke, do.	Instantly killed by a fall of rock. While he and the miner were engaged working at the face of gangway, a pan-shaped piece of rock unexpectedly fell and killed him as stated.
Totals,		58			. .	32	98			

Number of widows, thirty-two (32); orphans, ninety-eight (98).

NUMBER OF EACH CLASS OF ACCIDENTS.

By explosion of carbureted hydrogen gas, . .	4
By falling of roof and coal, ...	33
By being crushed by mine cars, ...	7
By explosions of powder and blasts, ...	4
By miscellaneous causes inside of the mines, .	4
By miscellaneous causes outside at mines, . .	6
Total, ...	58

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the Third Anthracite Mine District for the year ending December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne County.	Nature and Cause of Accident.
Jan. 6	John O'Donnell,	Driver,	18			Gaylord,	Plymouth,	Ankle sprained. Struck by the plane-rope.
9	Henry M. Williams,	Miner,	30			No. 4 slope,	Nanticoke,	Both were severely burned on hands and faces by an explosion of gas.
9	Constine Urick,	Laborer,	30					
11	Ivoe Thomas,	Driver,	16			Nottingham,	Plymouth,	Left arm crushed by cars. Had to be amputated.
12	Martin Conway,	Outside lab'r,	28	1		Hillman vein,	Wilkes-Barre,	Hips painfully injured. Struck by a car.
15	Barney O'Harah,	Laborer,	26	1	1	Hollenback,	Wilkes-Barre,	Right arm broken. Jammed by coupling cars.
15	Edward Trefoy,	Miner,	23	1	1	Baltimore slope,	Wilkes-Barre township,	Leg broken below knee by a fall of coal.
15	John Malnwaring,	Miner,	57	1	5	Nottingham,	Plymouth,	Back painfully bruised by coal rolling upon him.
15	Mike Berash,	Laborer,	27			No. 4 shaft,	Kingston,	Painfully hurt by a fall of rock.
21	Geo. Witheredge,	Laborer,	20			No. 1 shaft,	Nanticoke,	Severely squeezed between a car and rib.
22	Rees Lewis,	Miner,	46	1	5	No. 1 shaft,	Nanticoke,	Body and legs severely bruised by a premature blast.
24	Edward Weldaw,	Carpenter,	37			Hollenback,	Wilkes-Barre,	Shoulder-joint dislocated by falling into the fan-pit while repairing the fan.
30	Peter Johnson,	Foot-boy,	15			Avondale,	Plymouth township,	Leg seriously hurt by falling under cars.
30	Slezle Estman,	Laborer,	37	1		Diamond,	Wilkes-Barre,	Thigh jammed between cars at top of shaft.
30	Thomas Closs,	Laborer,	32	1		Hartford,	Ashley,	Face and one hand slightly burned by an explosion of fire-damp.
Feb. 1	Thomas Conner,	Laborer,	21			Reynolds,	Plymouth,	Head and arm slightly hurt by coal rolling upon him.
2	Stephen Flaherty,	Miner,	35	1	5	Hartford,	Ashley,	Face and side injured by a premature blast.
5	Wm. J. Jones,	Driver,	18			Hollenback,	Wilkes-Barre,	Head and chest slightly hurt. Squeezed between a car and rib.
10	Thomas Hill,	Miner,	43	1	6	Newport shaft,	Morgantown,	While consulting as to the best way of putting a set of timber up a piece of roof fell on them, cutting them badly about their heads.
10	Evan S. Morgan,	Laborer,	32	1				
10	Stephen Hill,	Laborer,	25					
12	Thomas Williams,	Laborer,	38	1	3	Dodson,	Plymouth,	Jumped off the cage before it landed. He had one rib broken and was otherwise bruised.
17	William Williams,	Door-boy,	15			No. 2 slope,	Nanticoke,	Severely cut on leg. Car crushed the door upon him.

Feb. 20	John Dickson,	Miner,	29	1	2	Baltimore slope,	Wilkes-Barre township,	Face and hands burned by an explosion of powder.
20	James Oliver,	Driver,	21			Alden,	Newport township,	Arm broken by falling under cars.
24	William Reed,	Sinker,	47	1	3	South Wilkes-Barre shaft,	Wilkes-Barre,	Skull fractured by a stone falling from side of shaft.
24	Thomas Shields,	Miner,	28			No. 3 shaft,	Kingston,	Hip sprained by a fall of roof.
March 2	Frank Bine,	Laborer,	35			No. 4 slope,	Nanticoke,	Painfully burned by an explosion of powder.
2	Stanisl's Lebenskl,	Miner,	48	1	.	No. 1 shaft,	Nanticoke,	One rib broken and face bruised by a fall of slate.
4	Daniel Jones,	Door-boy,	15			No. 2 shaft,	Nanticoke,	Arm broken and leg bruised by falling under cars.
6	William Angood,	Laborer,	40	1		Hollenback,	Wilkes-Barre,	Thumb crushed. Caught under a car.
6	Edward Lloyd,	Door-boy,	16			Franklin,	Wilkes-Barre,	Both legs fractured by falling under a car.
10	Charles W. Jones,	Miner,	32	1		No. 1 shaft,	Nanticoke,	Jaw and cheek bones fractured by a fall of top coal.
12	Alfred Anderson,	Laborer,	20			No. 9 shaft,	Sugar Notch,	Finger cut off. Caught between a car and roof.
15	Robert Leonard,	Laborer,	24			Conyngham,	Wilkes-Barre,	Leg broken and back bruised by a fall of coal.
17	Benjamin Bowen,	Miner,	28	1	3	No. 2 shaft,	Nanticoke,	Spine fractured by a fall of rock.
18	Edward D. Thomas,	Driver,	16			Dorrance,	Wilkes-Barre,	Painfully injured. Caught between a car and frame of engine-bed.
20	John Furguson,	Miner,	39	1	3	Hollenback,	Wilkes-Barre,	Leg and shoulder fractured by a fall of rock.
22	Frank Wassel,	Laborer,				Empire,	Wilkes-Barre,	Hand crushed by a fall of coal.
25	Geo. H. Bellamy,	Miner,	32	1	1	Dodson,	Plymouth,	Contusions on leg. Caught between a car and stone.
26	Geo. Blackman,	Laborer,	28			Wanamie,	Wanamie,	Leg and neck badly bruised by coal rushing upon him.
29	Charles Llewelyn,	Miner,	36	1	4	Grand tunnel,	West Nanticoke,	Leg painfully injured by a fall of coal.
29	Pat'k Conyngham,	Driver,	18			No. 5 shaft,	Plymouth,	Arm crushed and body severely injured by falling under cars. Arm was amputated.
29	Lewis Purcell,	Laborer,				Newport tunnel,	Morgantown,	Two ribs fractured by a fall of slate.
30	Charles Howey,	Laborer,	48	1	5	Newport tunnel,	Morgantown,	Back and hips severely injured by a fall of rock. John C. Parry was fatally hurt by the same fall.
April 1	William Rubelas,	Miner,	34	1	4	Wanamie,	Wanamie,	Arm broken by a fall of fire-clay.
5	Michael Flynn,	Driver,	17			No. 2 shaft,	Kingston,	Ribs bent by falling under cars.
6	Joseph Maux,	Laborer,	43	1	2	No. 1 slope,	Nanticoke,	Face and hands burned by an explosion of fire-damp.
6	Daniel Brislin,	Runner,	19			No. 9 shaft,	Sugar Notch,	Small bone of leg fractured. Struck by a car.
6	H. Niggermeyer,	Miner,	40	1	5	Lance No. 11,	Plymouth,	Bruised and cut on hips and legs by coal thrown by a blast bursting through the pillar.
6	Charles Smith,	Laborer,	36	1	5			
9	Edward Hilgman,	Miner,	40	1	2	Nottingham,	Plymouth,	Face and hands slightly burned by an explosion of fire-damp.
14	Michael Gilroy,	Runner,	32	1	2	Gaylord,	Plymouth,	Shoulder-bone fractured. Caught between a car and rib.
14	Charles Cook,	Miner,	26	1	2	Conyngham,	Wilkes-Barre,	Big toe broken by a lump of coal falling upon it from the chute.
16	John McMonigle,	Miner,	31	1	1	Gaylord,	Plymouth,	Two ribs broken and head bruised by a fall of coal.
16	Michael Powell,	Driver,	20			No. 9 shaft,	Sugar Notch,	One rib fractured by a kick from a mule.
17	William Boyd,	Miner,	55	1		No. 3 shaft,	Kingston,	Ankle dislocated by a stone sliding upon him.
19	Patrick Kennedy,	Miner,	42	1	7	No. 2 red ash,	Wilkes-Barre township,	Arm, legs, and head bruised by a fall of coal.

TABLE No. 5—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne County.	Nature and Cause of Accident.
April 21	Edward Jones, .	Driver, . . .	15	. .	. .	Grand tunnel, ...	West Nanticoke, ...	Arm broken. Caught between a car and rib.
May 1	Lewis Jenkins, . .	Driver, ...	22	. .	. .	No. 1 shaft, ...	Kingston, ...	Leg broken. Car jumped track and struck him.
4	Matthias Beck, . .	Outside lab'r,	33	1		Breaker No. 1, ...	Nanticoke, ...	Head and shoulders slightly hurt by falling a height of about 20 feet.
6	Wm. H. Stephens,	Miner, . .	36	1	2	Lance No. 11, ...	Plymouth, ...	Face and hands slightly burned by an explosion of gas.
7	Barney Boyle, . .	Slate-picker, .	12			Stanton, ...	Wilkes-Barre, ...	Left arm broken and shockingly lacerated by falling under the culm car.
7	Michael Murray, .	Miner, . . .	37	1	5	Dorrance, ...	Wilkes-Barre, ...	Foot sorely bruised by a lump of coal sliding upon it.
8	David Jenkins,	Door-boy,	15		.	Newport tunnel, ...	Morgantown, ...	Kicked on face by a mule.
8	Charles VanLoen,	Driver, . .	17		.	Lance No. 11, ...	Plymouth, ...	Foot painfully hurt by a culm car running upon it.
11	John Martin, . .	Laborer, .	31	1	. .	No. 5 shaft, ...	Plymouth, ...	Head and back severely injured by a fall of rock.
12	Jacob Blokus, .	Miner, . .	38	1		No. 1 shaft, ...	Nanticoke, ...	Face and hands slightly burned.
12	John Aljinski, .	Laborer, .	36					Face, hands, and shoulder burned. A fall of coal brought gas upon their lamps and caused an explosion which produced the injury.
14	Henry Gribble, . .	Miner, . . .	39	1	4	Hillman vein, ...	Wilkes-Barre, ...	Skull fractured, and flesh wounds on head and body, by a premature blast. Recovered.
18	John Northcote, .	Miner, . . .	40	1	4	Stanton, ...	Wilkes-Barre, ...	Leg fractured and severe flesh wounds on body, received by a fall of coal.
18	Robert Renshaw,	Miner, ...	43	1	5	No. 2 shaft, ...	Plymouth, ...	Slightly hurt by a premature blast.
19	Richard Jones,	Miner, . . .	23			No. 1 shaft, Lee vein, ...	Nanticoke, ...	Severely cut and bruised on body by a premature blast.
May 24	August Crawsa, . .	Laborer, .	24	1	1	Hollenback, ...	Wilkes-Barre, ...	Leg broken by a fall of fire-clay.
28	John D. Daniels, .	Miner, . .	42	1	7	No. 1 shaft, Lee vein, ...	Nanticoke, ...	Face and hands severely burned by an explosion of gas.
29	William J. Evans,	Driver, .	15			Conyngham, ...	Wilkes-Barre, ...	Severely cut on thigh by a car running over him.
June 1	George Soetlack, .	Laborer, .	20	. .		Gaylord, ...	Plymouth, ...	Hand crushed by a fall of rock. Was amputated.

June 3	Fred. Quinn,	Runner,	21			Stanton,	Wilkes-Barre,	Leg fractured—caught between two cars.
4	James Lyons,	Loader,	17			No. 1 red ash,	Wilkes-Barre,	Leg broken by falling from a railroad car.
4	James Badman,	Door-boy,	16			No. 4 lop,	Nanticoke,	Severely cut on head—caught between cars.
5	David H. Davies,	Miner,	23	1		No. 2 slope,	Nanticoke,	Leg broken and body hurt by a fall of rock. William Dykes was killed by the same fall.
10	Charles Smith,	Runner,	24			No. 3 shaft,	Kingston,	Finger cut off; caught between hook and draw-bolt.
12	Joseph Schwank,	Driver,	18			No. 1 red ash,	Wilkes-Barre township,	Finger crushed between stretcher, hook and and car. Had to be amputated.
15	Hugh Harkins,	Laborer,	25			Empire,	Wilkes-Barre,	Little finger cut off by a lump of coal falling on his hand.
15	John Smith,	Miner,	30			Grand tunnel,	West Nanticoke,	Burned by an explosion of fire-damp.
16	George Helfrick,	Oiler,	17			Boston breaker,	Plymouth,	Three fingers crushed between cars.
16	David Lewis,	Runner,	19			No. 2 red ash,	Wilkes-Barre township,	Hand crushed by spragging a runaway car.
16	David Evans,	Miner,	29	1		Nottingham,	Plymouth,	Small bone of leg, near ankle, broken by a fall of coal.
19	Joseph Rocoski,	Laborer,	23	1	1	No. 4 slope,	Nanticoke,	The first had his arm broken, and the other his body sorely bruised by a fall of rock.
19	Frank Sumiski,	Laborer,	34					John Wascoe, the miner, was killed at the same time.
19	Walter Watkins,	Miner,	48	1	4	No. 3 shaft,	Kingston,	Shoulder bruised by a fall of rock.
22	Geo. Washburn,	Door-boy,	16			Warrior Run,	Warrior Run,	Painfully hurt by kick from a mule.
24	William Curren,	Miner,	55	1	5	Avondale,	Plymouth township,	Leg broken by a lump of coal sliding upon him.
25	Jos. Croshinski,	Laborer,	40	1	2	No. 1 shaft,	Nanticoke,	Leg broken and ankle dislocated by coal flying from a blast.
26	W. A. Patterson,	Oiler,	18			Maffet,	Sugar Notch,	Foot crushed; caught between latch and rail until a car ran upon it. Had to be amputated.
26	Stephen Gallon,	Laborer,	21			No. 4 shaft,	Plymouth,	Leg broken by a fall of rock.
July 3	Emmet Conaghan,	Driver,	17			No. 1 red ash,	Wilkes-Barre township,	Hand crushed by a car while turning a latch. Had to be amputated.
9	Wm. Hancock,	Sinker,	26	1	1	Dorrance,	Wilkes-Barre,	Head and wrist cut by falling at bottom of shaft.
12	Jacob Pleva,	Laborer,	32			Newport tunnel,	Morgantown,	Leg broken; pried a piece of work down upon himself.
12	Dennis Murray,	Driver,	14			Empire,	Wilkes-Barre,	Painfully hurt by falling in the breaker.
13	John D. Thomas,	Miner,	43	1	5	Hillman vein,	Wilkes-Barre,	Painfully bruised about head and side by a premature blast.
13	John Crock,	Laborer,	40	1	2	No. 2 shaft,	Nanticoke,	Both legs broken; run over by a car.
15	Frank Matthews,	Runner,	24			Avondale,	Plymouth township,	Spine dislocated by a fall of rock. Was sitting at the face of a gangway when it fell.
15	John Sheehan,	Door-boy,	15			No. 1 slope,	Nanticoke,	Severely squeezed about his hips; fell under cars.
19	James Hosie,	Miner,	40	1	2	No. 3 shaft,	Kingston,	Ankle dislocated. Both hurt at the same
19	William Duffy,	Laborer,	30	1	3			Leg broken. time by a fall of rock.
19	Francis Tracey,	Driver,	18			No. 9 shaft,	Sugar Notch,	Leg painfully bruised; a car ran upon him.
20	William Davies,	Runner,	20			Lance No. 11,	Plymouth,	Fingers of right hand hurt; ran over by a car.
23	Alfred Armear,	Miner,	38	1	2	Conyngham,	Wilkes-Barre,	Severe cut on hand; piece of coal sliding over the drill cut him.
23	Julius Coates,	Laborer,	59			Empire,	Wilkes-Barre,	Body painfully bruised by a fall of coal.
27	Peter Paulson,	Miner,	38	1	4	Dorrance,	Wilkes-Barre,	Face and hands slightly burned by an explosion of gas.

TABLE NO. 5—*Continued.*

Date of accident.	Name of Person.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne County.	Nature and Cause of Accident.
July 27	John Tredinick,	Sinker,	50	1	5	South Wilkes-Barre,	Wilkes-Barre,	Ribs broken by falling some distance down the shaft from a platform.
28	William Allen,	Miner,	49	1		Boston,	Plymouth township,	Hips squeezed by a fall of coal.
29	M. McLaugher,	Driver,	15			Baltimore tunnel,	Wilkes-Barre,	Large toe crushed; a car ran over it.
Aug. 2	Darby Morrow,	Door-tender,	60			Stanton,	Wilkes-Barre,	Leg broken and head cut in several places; was caught between a car and door.
2	David Jenkins,	Miner,				No. 1 shaft,	Nanticoke,	The first was burned severely, and the other two slightly, by an explosion of gas. While brushing against the rule, the laborer from next breast came in contact with the gas and ignited it.
2	John Thomas,	Laborer,				Lee vein,		
2	Wm. Gallagher,	Laborer,						
6	Jacob Timms,	Laborer,	46	1	5	Dodson,	Plymouth,	Compound fracture of leg by fall of coal.
9	Samuel Bennett,	Laborer,	47	1	7	No. 9 breaker,	Sugar Notch,	Three fingers crushed by a car running over them.
12	John Larue,	Driver,	16			Avondale,	Plymouth township,	Injured by being squeezed between cars.
12	Adam Stein,	Miner,	30			Empire,	Wilkes-Barre,	Leg broken and cut on head by a fall of coal.
12	Paul Pavotz,	Miner,	28			Alden,	Newport township,	Severely bruised on left side by a fall of coal.
13	Frank Househ,	Carpenter,	46	1	4	Stanton,	Wilkes-Barre,	Three ribs fractured by falling off the roof of boiler house.
14	Richard T. Jones,	Laborer,	20			Stanton,	Wilkes-Barre,	Face and hands slightly burned by an explosion of gas.
16	James Andrews,	Miner,	45	1	5	No. 1 shaft, Lee vein,	Nanticoke,	Face and hands burned by an explosion of powder.
17	Shack Brown,	Laborer,	48			No. 9 shaft,	Sugar Notch,	Leg broken; a lump of coal from chute struck him.
18	William Herberth,	Laborer,	21			No. 1 red ash,	Wilkes-Barre township,	Leg broken by a fall of rock.
19	Samuel Lloyd,	Miner,	43	1	9	Lance No. 11,	Plymouth,	Severe cut on leg by coal flying from a blast.
24	Michael Apple,	Miner,	33	1	3	No. 1 shaft,	Nanticoke,	Painfully bruised by a fall of slate at the face of gangway.
24	Joseph Bocavitch,	Laborer,	25					
25	George A. Smith,	Slate-picker,	13			Gaylord,	Plymouth,	Elbow fractured and left hip dislocated by falling from the top of a car while playing.
27	John Benson,	Driver,	16			Dorrance,	Wilkes-Barre,	Bruised about hips; squeezed between cars.
Sept. 3	George Miller,	Miner,	33	1		Grand tunnel,	West Nanticoke,	Painfully injured by a premature blast.
4	Jos. Brochinski,	Laborer,	27			No. 4 slope,	Nanticoke,	Hips injured by a fall of roof.
7	Andrew Conuck,	Laborer,	24			No. 2 slope,	Nanticoke,	Foot severely injured by a fall of rock.

Sept. 8	Henry Phillips,	Miner,	29	1	2	No. 1 red ash,	Wilkes-Barre township,	Collar-bone fractured; jammed between a car and face of breast.
8	John Adams,	Runner,	20	.		No. 1 shaft,	Nanticoke,	Small bone at ankle fractured; struck by a car.
10	John E. Lewis,	Miner,	34	1	3			
10	John Sailetzki,	Laborer,	23	1	. .	No. 2 slope,	Nanticoke,	Slightly burned. / Severely burned. / Slightly burned. — Returned to a cross-cut after firing a blast with naked lights. Gas had accumulated, and they fired it with their lamps.
10	John Gameta,	Laborer,	23	.	.			
10	William Carey,	Headman,	21			Hollenback,	Wilkes-Barre,	Knee jammed between cars.
11	John J. Thomas,	Miner,	25	1		Empire,	Wilkes-Barre,	Both severely injured by a large fall of rock.
11	George Blenner,	Laborer,	15	.	. .			
13	Daniel Edwards,	Door-boy,	15			Parrish,	Plymouth,	Ankle dislocated; foot caught between a car and sill.
14	Henry Cooley,	Laborer,	22	.	. .	Newport shaft,	Morgantown,	Ankle fractured by a fall of fire-clay.
16	James Solomon,	Driver,	16	. .	. .	Conyngham,	Wilkes-Barre,	Painfully hurt around body; caught between a car and rib.
18	Peter Jones,	Helper,	16	. .	. .	Alden,	Newport township,	Skull fractured and severe scalp wound. While taking a mule to the blacksmith shop, he was caught in the harness and dragged along a distance of about 300 yards.
20	John Zodelete,	Miner,	35			Wanamie,	Newport township,	Left thigh fractured by a fall of rock.
23	John E. Rees,	Miner,	38	1	6	Stanton,	Wilkes-Barre,	One rib broken and a cut on head by a fall of coal.
23	Alex. Stancey,	Headman,	35	1	1	Avondale,	Plymouth township,	Legs burned by jumping into hot ashes.
25	Frank McCormick,	Runner,	23			Gaylord,	Plymouth,	Injured by being squeezed between car and rib.
27	Thomas W. James,	Miner,	29			No. 2 slope,	Nanticoke,	Face severely injured by premature blast.
27	John Knecht,	Loader,	25			Stanton,	Wilkes-Barre,	Two fingers mangled; jammed between cars.
27	Henry McHose,	Driver,	16			No. 2 breaker,	Nanticoke,	Wrist fractured; caught between car and chain.
29	Andrew Carling,	Door-boy,	15	. .		No. 9 shaft,	Sugar Notch,	Collar-bone broken by falling under cars.
Oct. 5	Richard Smith,	Miner,	40			Franklin,	Wilkes-Barre,	Both painfully burned on faces and hands by an explosion of gas.
5	Andrew Ruddy,	Miner,	35					
6	Thos. Lawrence,	Miner,	27	.	.	No. 2 shaft,	Nanticoke,	Skull fractured by a blast. Recovered.
6	John Brown,	Miner,	33	. .		Hollenback,	Wilkes-Barre,	Face and hands burned by an explosion of gas.
11	Joseph Veccllns,	Laborer,	28	1	2	Alden,	Newport township,	Severely injured by a fall of rock.
12	John Zeperko,	Laborer,	29	1	4	No. 1 slope,	Nanticoke,	Severely burned by an explosion of gas. Thos. Clement, Adam Zeperko and Wadick Ginofski were fatally burned at the same time.
15	Andrew Coyle,	Miner,	38			Conyngham,	Wilkes-Barre,	Shoulder and arm severely bruised by a fall of coal.
16	Samuel Krothe,	Slate-picker,	14			Lance No. 11,	Plymouth,	Leg broken by falling into the chute.
16	Matthew Davies,	Driver,	23			Gaylord,	Plymouth,	Knee bruised; caught by cars.
18	Thomas Hancock,	Miner,	39	1	5	Gaylord,	Plymouth,	Severely cut on arm by a lump of coal falling from top of car.
20	Nathan Lameraux,	Rockman,	29	1	2			
20	George Asher,	Rockman,	30	1	3	No. 3 shaft,	Kingston,	While standing on a scaffold cutting a hitch for a collar, a fall of fire-clay came upon them, injuring the three slightly.
20	John Homer,	Rockman,	30					
21	William Davies,	Runner,	21			Lance No. 11,	Plymouth,	Head and chest squeezed; caught between a car and prop.

TABLE NO. 5—*Continued.*

Date of accident.	NAME OF PERSON	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne county.	Nature and Cause of Accident.
Oct. 22	John Barret,	Miner,	47	1	5	Conyngham,	Wilkes-Barre,	Face and hands severely burned by an explosion of gas.
23	John Caffrey,	Miner,	24	1		Maffet,	Sugar Notch,	Fell down the breast, on a pitch of 40 degrees, a distance of 170 feet. Was injured, but not so as to imperil his life.
26	Powell Wolf,	Laborer,	25			No. 4 tunnel,	Nanticoke,	Leg and arm broken by a fall of fire-clay.
Nov. 3	David S. Morgan,	Miner,	36	1	3	Nottingham,	Plymouth,	Both slightly burned on their hands and faces by an explosion of gas.
3	Evan Hopkins,	Laborer,	24					
4	M. Ostrofskey,	Miner,	29	1	1	No. 1 shaft, Lee vein,	Nanticoke,	Face and hands painfully burned by an explosion of gas.
5	Frank Ryan,	Laborer,	40	1		Empire,	Wilkes-Barre,	Face and hands burned by an explosion of gas.
5	John Bades,	Miner,	26	1	1	Gaylord,	Plymouth,	Hand crushed and cut on head by a fall of coal.
5	Anthony Myers,	Miner,	50		4	Hollenback,	Wilkes-Barre,	Face and hands slightly burned by an explosion of gas.
6	Henry Hankee,	Door-boy,	20			No. 2 slope,	Nanticoke,	While riding on front of car with his foot sliding on rail, a piece of iron ran through his heel.
6	Charles Thomas,	Loader,	25			Nottingham,	Plymouth,	Foot crushed under railroad car.
6	Peter Walters,	Teamster,	35			Woodward,	Kingston,	Leg broken by a piece of timber rolling upon it.
10	Andrew Durkin,	Miner,	35	1	4	Nottingham,	Plymouth,	Leg broken; struck by coal thrown by a blast.
11	Joseph Steever,	Laborer,	16			No. 5 Colliery,	Plymouth,	Leg broken; fell under a railroad car on surface.
11	John D. Jones,	Driver,	16			Stanton,	Wilkes-Barre,	Kee badly bruised; jammed between cars.
11	Caleb Gething,	Runner,	18			No. 1 Shaft, Lee Vein,	Nanticoke,	Leg broken; jammed between cars.
18	John Doran,	Driver,	18			Maffet,	Sugar Notch,	Kicked on face by a mule; not serious.
25	John C. Davies,	Miner,	44			Stanton,	Wilkes-Barre,	Face and hands slightly burned by an explosion of gas.
26	Frank Kanopzka,	Laborer,	19			Gaylord	Plymouth,	Head and side painfully bruised by a fall of coal.
26	James Phillips,	Laborer,		1		Avondale,	Plymouth twp.,	Slightly hurt by a fall of coal from rib.

Nov.	26	Cornelius Boyle,	Miner,	40	1					Face, hands, and back burned.
	26	John Corcoran,	Laborer,		1					Face and hands burned.
	26	John Cannon,	Miner,		1					Face and hands burned.
	26	Condy Cannon,	Laborer,		1					Face and hands burned slightly.
	26	Richard Colter,	Miner,		1					Face and hands slightly burned.
	26	Wm. C. Williams,	Fire-boss,		1					Face and hands painfully burned.
	26	Patrick Gallagher,	Laborer,		1					Face and hands burned.
	26	James E. Davies,	Co.-man,		1					Face and one hand burned.
	26	John Lewis,	Co.-man,		1					Face and one hand burned.
	26	Joseph Cook,	Miner,		1					Face and one hand burned.
	26	Michael Scobie,	Miner,		1					Wrist and one hand burned.
	26	Daniel Ferry,	Miner,		1					Face and hands burned.
	26	Patrick McCabe,	Miner,		1					Face and hands slightly burned.
	26	William Price,	Track-layer,			1				Face and hands slightly burned.
	26	Patrick Mangan,	Miner,		1					Face and hands burned.
	26	Alfred Annear,	Miner,		1		Conyngham,	Wilkes-Barre,		Face and hands burned.
	26	James Boyle,	Miner,		1					Face and hands burned.
	26	Peter Herron,	Laborer,		1					Face and hands burned.
	26	James McCune,	Laborer,		1					Face and hands burned.
	26	Patrick McAlarney	Laborer,		1					Face and hands burned.
	26	Henry Kline,	Laborer,		1					Face and hands burned.
	26	Michael Friele,	Driver,							Face and hands burned.
	26	Hugh Friele,	Door-boy,							Face and hands burned.
	26	Patrick Kelley,	Laborer,							Face and hands burned.
	26	Edward Kerne,	Laborer,							Face and hands burned.
	26	Walter Neal,	Driver,							Face and hands burned.
	26	John T. Mack,	Driver,							Face and hands slightly burned.
	26	John Toole,	Driver,							Face and hands burned.
	26	Patrick Dougherty	Laborer,							Hands and forearms burned.
	26	Peter Miller,	Miner,							Face painfully burned.
	26	Michael O'Brien,	Laborer,							Face and hands burned.
	26	John Williams,	Driver,	15			Diamond,	Wilkes-Barre,		Flesh wound on leg; caught between cars.
	29	Thomas J. Barrett,	Miner,	40	1		Empire,	Wilkes-Barre,		Head, back and leg bruised by a fall of coal.
	30	William Dennis,	Miner,	38	1	6	No. 2 shaft,	Plymouth,		Hip dislocated by a fall of rock.
	30	Wesley Yohey,	Miner,	28	1	6	Alden,	Newport township,		Hands and face cut and bruised by coal flying from a blast bursting through the pillar.
	30	Joseph Zeck,	Miner,	40	1	2	Alden,	Newport township,		Severe scalp wound caused by a fall of rock.
Dec.	3	William Prosser,	Door-boy,	16			Empire,	Wilkes-Barre,		Small bone of leg broken by falling under cars.
	3	Christian Kester,	Driver,	18			Hollenback,	Wilkes-Barre,		Hand bruised and one finger cut off; caught between cars.
	3	John H. Hughes,	Miner,	52	1	2	Franklin,	Wilkes-Barre,		Back painfully injured; caught between car and roof while riding up the slope.
	3	John Brown,	Miner,	45	1	5	No. 2 shaft,	Nanticoke,		Leg and three ribs broken by a fall of slate.
	8	Ed. Walsh,	Laborer,	32	1	3	Maffet,	Sugar Notch,		Collar bone fractured by a fall of coal.
	11	Rowland Griffith,	Miner,	38	1	1	No. 1 red ash,	Wilkes-Barre township,		Blasting-needle run into his thigh while running from a blast.
	13	William Poor,	Slate-picker,	21			Boston breaker,	Plymouth,		Left arm broken; caught in the machinery.
	13	Stephen Snyder,	Miner,	50	1	8	Conyngham,	Wilkes-Barre,		Both burned on faces and hands by an explosion of gas, through a mistake of two laborers, who left a door stand open too long.
	13	William Blume,	Laborer,	24						
	15	George Jayne,	Driver,	17			No. 2 shaft,	Nanticoke,		Painfully injured; caught between a car and rib.
	15	Willard Kreidler,	Runner,	16			Avondale,	Plymouth township,		Fell from a trestling and broke his arm.

All burned by an explosion of gas. For description see report.

TABLE No. 5—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne County.	Nature and Cause of Accident.
Dec. 15	Richard R. Roberts	Miner, ...	40	.	2	Gaylord, ...	Plymouth, ...	Severe scalp wound and cut on arm received by a falling prop.
17	Patrick Conway, .	Pump-man, .	56	.		No. 10 slope, ...	Sugar Notch, ...	Feet scalded by stepping into hot water.
18	John McAleese, .	Co.-laborer, .	44	. .		No. 10 slope, ...	Sugar Notch, ...	Hips squeezed between a car and leg; not serious.
18	William Nead,	Laborer, . . .	25			Nottingham, ...	Plymouth, ...	Hip dislocated by a fall of boney coal.
20	William Serdival,	Miner, . . .	25			Franklin, ...	Wilkes-Barre, ...	Burned slightly by an explosion of gas.
21	Thomas S. Thomas,	Miner, . .	35	1	4	Diamond, ...	Wilkes-Barre, ...	Arm broken by falling from a ladder.
21	Mason C. Engle, .	Brakeman, .	19			No. 5 breaker, ...	Nanticoke, ...	Severely bruised; caught between car and breaker timber.
22	Martin Farrell, . .	Miner, . .	22	1	1	Gaylord, ...	Plymouth, ...	Severely bruised by a fall of coal.
23	Oliver Adams, . .	Door-boy,	16			Hollenback, ...	Wilkes-Barre, ...	Two fingers cut off right hand by falling under cars.
29	John O'Harra, . .	Driver, . . .	17	. .	. .	No. 2 red ash, ...	Wilkes-Barre, ...	Hand crushed by being caught between car-bumpers; had to be amputated.

Total number, two hundred and forty-seven, (247.) In addition to the above list, forty-two (42) slight injuries were reported, adding which would swell the list of non-fatal injuries to two hundred and eighty-nine, (289.)

RECAPITULATION.

Seriously injured:	
By explosion of carbureted hydrogen gas, . .	63
By falls of roof and coal, ...	63
By falling down shafts, ...	1
Injured by mine cars, ...	56
By explosion of powder and blasts, . . .	18
By miscellaneous causes inside of mines, . .	25
By miscellaneous causes outside of mines . .	21
Total, ...	247

Fourth Anthracite Coal District.

Synopsis of the report of Inspector James E. Roderick for the year ending December 31, 1886. Compiled by the Bureau.

Number of mines in district, as located,	52
Number of mines operated from which statistics were gathered,	59
Average working time in days for fifty-nine mines,	221
Persons employed inside of mines,	7,405
Persons employed outside of mines,	6,735
Total number of persons employed,	14,140
Number of fatal accidents,	35
Number of non-fatal accidents,	124
Persons employed per fatal accident,	414
Persons employed per non-fatal accident,	114
Number of tons of coal mined,	5,333,518
Number of tons of coal shipped,	4,915,096
Number of tons increased production over year 1885, (decrease,)	202,025
Number of tons of coal mined per fatal accident,	152,386
Number of tons of coal mined per non-fatal accident,	43,012
Number of kegs of powder used in mines,	98,525
Number of steam boilers in use,	1,224
Number of horses and mules in service,	1,640
Number of widows,	17
Number of orphans,	41

There was a decrease of seven in the number of fatal accidents and a decrease of thirty-four in the number of non-fatal accidents. Sixty-three persons received certificates of service, and fourteen certificates of qualification as mine-bosses.

FOURTH ANTHRACITE DISTRICT.

HONORABLE J. SIMPSON AFRICA,
Secretary of Internal Affairs:

SIR: In accordance with the requirements of section seven of article two of the act of Assembly, entitled "An Act to provide for the health and safety of persons employed in and about the Anthracite Coal Mines of Pennsylvania, and for the protection and preservation of property connected therewith," I have the honor to submit for your perusal my sixth annual report.

I have carefully prepared tables enumerating all the accidents in and about the mines of this district, marking in tabular form all accidents resulting in death and injuries to persons employed, and have also endeavored to set forth the results of my labor generally.

The total number of accidents reported in this district for the past year was one hundred and fifty-nine, through which thirty-five persons lost their lives, causing seventeen widows and forty-one orphans to mourn for husbands and fathers.

I am happy to state that a reduction of about twenty per centum has been made in the number of accidents as compared with the previous year.

The total production of this district during the year 1886 was 5,333,518 tons, a decrease of 202,025 tons as compared with the year 1885. The immediate cause of this decrease was the stoppage of work at Ebervale and Harleigh collieries, on account of the drowning out in January, 1886.

The average number of days worked was two hundred and twenty-one, an increase of thirteen days over the previous year.

For every fatal accident in this district, 152,386 tons of coal were produced, which is the best showing for the last six years.

If we computed the number of tons of materials hoisted to the surface, we could say that over 200,000 tons were produced in this district for each life lost.

I have again called attention to the great need of a hospital at Hazleton, and have also referred to the "Beneficial Fund" of the Lehigh Coal and Navigation Company at Lansford.

Respectfully submitted by

JAMES E. RODERICK,
Inspector of Coal Mines.

HAZLETON, PA., *March 5, 1887.*

NUMBER OF EMPLOYES, with the average number of tons mined per employé during 1886.

	Number of persons employed.	Average number of tons mined per employé.
A. Pardee & Co.,	1,648	329.7
Coxe Bros. & Co.,	3,091	396.8
Lehigh Coal and Navigation Company,	1,792	352.4
Linderman, Skeer & Co.,	1,025	386.9
G. B. Markle & Co.,	980	511.2
Upper Lehigh Coal Company,	686	561.3
J. C. Haydon & Co.,	558	357.7
Pardee, Sons & Co.,	526	479.1
G. H. Myers & Co.,	484	368.4
Miscellaneous companies,	2,820	
Men at stripping and other work,	530	361.5
Total and average,	14,140	377.2

TABLE OF COMPARISON, showing the number of fatal accidents per thousand persons employed in and about the mines of the Fourth District for the years 1881, 1882, 1883, 1884, 1885, and 1886.

YEAR.	Number of employés.	Number of deaths.	Ratio employed per death.	Number of deaths per thousand employed.
1881,	11,386	47	242.25	4.127
1882,	12,298	40	307.45	3.252
1883,	13,598	38	357.84	2.794
1884,	14,299	40	357.47	2.797
1885,	14,224	42	338.66	2.952
1886,	14,140	35	404.00	2.475
Averages,	13,324	40.3	330.6	3.024

TABLE OF COMPARISON showing the different causes of fatal accidents in the Fourth District, for the years 1881, 1882, 1883, 1884, 1885, and 1886.

	YEARS.					
	1881.	1882.	1883.	1884.	1885.	1886.
Explosion of carbureted hydrogen gas,	3	1			1	1
By falls of coal, roof, and sides,	24	24	18	10	19	13
By cars, inside and outside,	11	8	11	17	8	5
By premature blasts,	1	1	1	3	3	2
By machinery, inside and outside,	4	1	2	2	3	1
By boiler explosions,					3	1
Miscellaneous, inside and outside,	4	5	6	8	5	12
Totals,	47	40	38	40	42	35

TABLE A—Exhibits the number of deaths in each class of employés inside and outside of the mines, and the causes thereof, for the year 1886.

CAUSES OF DEATHS—INSIDE OF MINES.	Miners.	Miners' laborers.	Company laborers.	Drivers.	Door tenders.	Totals.
By falls of all kinds,	11	1				12
By mine cars,	2	2	1	1	1	7
By premature blasts,	2					2
By explosion of gas,	1					1
Miscellaneous causes,	2	1				3
Totals,	18	4	1	1	1	25

Causes of Deaths—Outside of Mines.	Laborers.	Slate pickers.	Firemen.	Totals.
Falls at strippings,	2			2
Blasts at strippings,	2			2
By cars,	2			2
By boiler explosion,			1	1
Miscellaneous causes,	2	1		3
	8	1	1	10

TABLE B—Gives the total number of each class of employés, the number of deaths in each class, and the ratio of each class employed per life lost inside and outside the mines during the year 1886.

CLASSES OF EMPLOYES INSIDE OF THE MINES.	Number of each class employed.	Number of deaths in each class.	Ratio employed per death.
Miners,	3,003	18	166.8
Miners' laborers,	1,716	4	429
Company laborers,	1,617	1	1,617
Drivers and runners,	682	1	682
Door-tenders,	332	1	332
Other employés,	55	.....	.....
Totals,	7,405	25	296.2
Classes of Employés Outside of the Mines.			
Laborers,	2,183	8	273
Slate-pickers,	2,596	1	2,596
Engineers and firemen,	531	1	531
Other employés,	1,425	.....	.....
Totals,	6,735	10	673.5

TABLE C—Gives the total number of each class of employés, the number of injuries in each class, and the ratio of each class employed per injury inside and outside of the mines during the year 1886.

CLASSES OF EMPLOYES INSIDE OF THE MINES.	Number of each class employed.	Number injured in each class.	Ratio employed per injury.
Miners,	3,003	50	60
Miners' laborers,	1,716	19	90
Company laborers,	1,617	18	80
Drivers and runners,	682	14	49
Door-boys and helpers,	332	7	47
Other employés,	55	.....	.....
Totals—average,	7,405	108	68.5
Classes of Employés Outside of the Mines.			
Laborers,	2,183	14	156
Slate-pickers,	2,599	2	1,298
Other employés,	1,956	...	.....
Totals,	6,735	16	421

TABLE OF COMPARISON, giving the nature and the number of non-fatal accidents for the years 1881, 1882, 1883, 1884, 1885, 1886.

YEARS.	NATURE OF ACCIDENTS.								
	Accidents but no bones fractured.	Collar bones fractured.	Jaw bones fractured.	Ribs fractured.	Legs fractured.	Feet fractured.	Arms fractured.	Hands fractured.	Totals.
1881,	57	5	. . .	1	17	. .	8	. . .	88
1882,	97	2	1	. . .	19	4	7	6	136
1883,	99	7	1	. . .	26	4	8	8	153
1884,	131	3	1	9	33	9	14	17	217
1885,	76	3	4	3	40	7	16	4	158
1886,	66	6	. .	2	27	4	14	5	124
Total for six years, . .	526	31	7	15	162	28	67	40	876
Averages, ...	87.6	5.16	1.16	2.5	27	4.6	11	6.6	146

TABLE OF COMPARISON, showing the yearly and total production of each company in the Fourth Anthracite District for the last six years, the number of lives lost, and the average amount of coal produced by each company per life lost.

NAMES OF COMPANIES.	1881.	1882.	1883.	1884	1885	1886.	Total production.	No. of lives lost.	Tons produced per life lost.
A. Pardee & Co., Hazleton,	686,462	673,627	659 151	543,164	530 806	543 387	3 636 667	28	129,881
Cox Bros. & Co., Drifton,	534 764	547,529	613 034	805 538	893 487	1 226 685	4 651 037	41	113,440
Lehigh Coal and Navigation Co., Lansford,	414 398	419 189	474.175	533 956	598. 905	631. 459	3 072. 082	25	122 883
Linderman, Skeer & Co., Stockton,	324.250	429 577	518 308	426 582	440 552	396 641	2 537. 395	25	101 495
G. B. Markle & Co., Jeddo,	413 820	472 635	499,068	358. 197	397 553	501 141	2.642.444	17	155,436
Upper Lehigh Coal Co., Upper Lehigh,	387. 842	365. 180	390. 069	360. 166	373 491	385 079	2 261. 727	12	188. 477
Leisinring & Co., Eckley,	254 551	337 427	399, 433	355. 141	469 947	Lease expired.	1 756 489	14	125 463
J. C. Haydon & Co., Jeanesville,	215, 660	242. 379	248, 904	215 249	245 126	252 040	1. 418, 798	7	202 685
Pardee Bros. & Co., Lattimer,	254 754	239. 032	212 151	235, 785	216 281	199 281	1 357. 284	6	226 214
Ebervale Coal Co., Ebervale,	198 825	257, 383	226 365	173. 907	150. 559	Idle during year.	1 007 039	10	100, 704
G. M. Myers & Co., Yorktown,	178 679	185 074	198 176	191. 682	189 193	178 317	1, 121, 121	14	80 080
M. S. Kemmerer & Co., Sandy Run,	136 085	181 759	188. 418	147 174	158, 720	146 344	985. 500	3	319 500
Pardee Sons & Co., Mt. Pleasant,	146. 691	143 373	190. 837	139 139	146. 229	149 136	915 400	10	91 540
William T. Carter & Co., Coleraine,	138. 187	153, 360	169 469	169 950	128 552	94 846	854 364	5	170 873
Lehigh & Wilkes-Barre Coal Co., Tresckow,	116. 561	135 609	148 402	132 784	107 657	71. 025	712, 034	9	79 115
C. M. Dodson & Co., Beaver Brook,	98 028	99 369	82. 250	138 162	159 115	178 011	754 933	1	754 933
C. Pardee & Co., Hollybrook,	125, 141	125 841	149 437	103 410	94, 249	119 393	714 469	7	102 067
Stout Coal Co., Milnesville,	142. 405	120, 793	93. 582	79 902	101. 951	109, 115	647 798	2	323 899
Kemmerer & Co., Harleigh,	94 755	88, 667	66, 801	96. 302	86 603	6 466	439 594	5	87 919
M. S. Kemmerer & Co., Pond Creek,	32 882		39 486	50. 750	45 494	49 465	218 017	1	218 017
Black Ridge Coal Co., Black Ridge,	21,754	63 694	4 072	Idle during year.	10, 966	56 722	157 208	No deaths.	
J. S. Wentz & Co., Hazlebrook,				20. 295	50 081	38 965	109 341	1	109 341
Buck Mountain Coal Co.,	120, 719	108, 906	75, 152	Abandoned.			304 777	No deaths.	
Total production each year,	5 037, 948	5 360, 497	5 666. 767	5, 274 227	5 535 543	5 333 518	32. 208, 500	242	133 093
Average number of days worked each year,	225	221	221. 9	184 5	208 6	221			

The general condition of the mines in regard to health and safety of the persons employed has been greatly improved, and I am happy to state that the mines of this district, in general, are in good condition.

The ventilation and drainage received more intelligent attention from the mine foremen during the year 1886 than during any previous year since 1881, when I entered upon my duties as inspector of mines.

The timbering and propping have also been attended to with system and regularity, so that not a single life was lost in this district during the past year through the neglect of standing props and timbers.

The law that compels the operators to take props and timbers into, or as near as practicable to the working places, has produced good and lasting results, as it leaves no excuse for the miner to be without the necessary props and timbers, if he is careful in ordering them in time. As far as I know, all the companies in this district have complied with the law in that respect, or have done so wherever requested by the men.

We have a large amount of "robbing" done in some of the old mines, those that were partly abandoned fifteen and twenty years ago. These places are indeed dangerous, and need the vigilant attention of the mine foreman, and constant care and watchfulness on the part of the miner. Through the vigilance of the foremen and the care of the miners, there was not a life lost while robbing pillars.

I think that much of these general good results is due to the efficiency of the new mine law, which is undoubtedly a great improvement over the mine law of 1870, a proof of which is that a general reduction of about fifteen per cent. has been made in the accidents of the anthracite region during the year 1886.

Some of the men are always blaming the foremen and inspectors for the accidents in and about the mines, but the intelligent and thoughtful workman is aware that the responsibilities of about two-thirds of the accidents are to be found elsewhere, with the victims themselves.

In conclusion, I will say, from actual knowledge, that if the miners in general would take the proper care of themselves and laborers—in short, if the employés inside and outside the mines would take ordinary care of themselves, the accidents would be greatly reduced.

Arbitration.

The partial drowning out of the Harleigh and Ebervale mines, in the early part of January, brought the strength of the barrier pillar between Ebervale and Oak Dale into question. The maps showed a pillar of about eighty feet, but maps are not always reliable, especially in years after the surveys are made, as pillars may crumble, or interested parties may take a "scips" off either or both sides of the pillars.

With these uncertainties in my mind, I called on Mr. John Markle, the superintendent for G. B. Markle & Co., who stated that to the best

of his knowledge and belief there were about eighty feet of barrier pillar between Oak Dale, No. 1, and Ebervale. I suggested a way of determining the thickness of the pillar beyond a doubt, and as the water was rising fast in Ebervale, I was a little anxious, as on the strength of this barrier pillar depended the lives of scores of employés at Oak Dale, Nos. 1 and 2. On the 28th day of January I wrote Mr John Markle an official letter on the question, to which he replied as follows:

Jeddo, Pa., *January 30, 1886.*

Mr. James E. Roderick,

Inspector of Coal Mines:

Dear Sir: In reply to your notice, dated January 28, 1886, that the rise of water in Ebervale mine endangers the pillar between Ebervale and Oak Dale mines, I have to say that we wish to refer the question of the sufficiency of said pillar to arbitration as suggested, by you, and name as arbitrator on the part of the lessees of Oak Dale mines, Mr. Fred. Mercur, of Wilkes-Barre, Pennsylvania. I shall be obliged if you will name an arbitrator at once, so a speedy decision may be reached.

Yours truly,

John Markle, *Superintendent.*

On the 31st day of January, I complied with Mr. Markle's request, by naming Mr. E. L. Bullock, of Beaver Brook, as arbitrator to represent the mine inspector. These two arbitrators, Messrs. Mercur and Bullock, met and named Hon. E. B. Coxe, of Drifton, as the third arbitrator or referee. The following report will speak for itself:

The arbitrators selected to consider the question as to whether the pillar between the Ebervale and Jeddo collieries was sufficiently strong to allow the work to be carried on in the Jeddo mines with safety to the men, met at Jeddo on Thursday, February 4, at the office of G. B. Markle & Co. In addition to the arbitrators selected, there were present Mr. Roderick, the mine inspector; Mr. T. D. Jones, superintendent at Ebervale; Mr. John Markle, superintendent at Jeddo; Mr. Heber S. Thompson, the mining engineer of the Girard estate; Mr. Frank G. Clemens, the assistant mining engineer of the Lehigh Valley Coal Company; Mr. James A. Chase, the draughtsman of Mr. T. S. McNair; Mr. G. S. Patterson, the mining engineer of Messrs. G. B. Markle & Co., and others familiar with the locality. The arbitrators first investigated the facts of the case, which were found to be as follows:

First. The tracing hereto annexed represents, in their judgment, the true condition of the pillar between Jeddo and Ebervale. They base their opinion upon the testimony of Mr. Chase as to the surveys of Mr. T. S. McNair on the Ebervale side, all of which were closed and

controlled as far as they are important in the question at issue, and upon the testimony of Mr. Patterson, as to the surveys on the Jeddo side, which were all controlled and closed, and which also agree with those formerly made by Mr. McNair.

Second. The pillar on the Jeddo side is very much strengthened by what may be considered as buttresses of solid coal, marked A, B, C, D, and E on the tracing.

Third. From the testimony of the mine foreman, and others familiar with the workings at Ebervale and Jeddo, all the coal in the pillar on the Jeddo side is good, strong, and solid, and shows no signs of crushing or spalling. The top coal in all the breasts along the pillar, without any thing more than the ordinary breast propping, is strong enough to sustain the top rock and is still standing; the water merely oozes through the pillar, and does not come through anywhere in even a small stream, the present pressure of water being 235 feet; the coal on the Ebervale side of the pillar is good and merchantable, but is not as strong as that on the Jeddo side. However, the mine foreman of Ebervale testified that when he visited the pillar, within the last few months, he found the coal still solid and with no signs of crushing and spalling off, although the breast along the pillar had been worked five years ago. He also testified that the coal west of the pillar had been robbed, and that the top rock had settled almost down to the basin, thus relieving the boundary pillar of much of the superincumbent weight. It also appeared from the maps that when the water rises high enough to flow out of the cave hole at Harleigh, its surface will be about 315 feet over the bottom gangway.

Fourth. From the evidence of Mr. Heber S. Thompson, mining engineer of the Girard estate, the following described pillars are resisting the annexed pressures in the Mahanoy region:

PLACE.	Thickness of pillar.	Height of water.	Thickness of seam.	Dip.
Kehley's Run.	*Feet.*	*Feet.*	*Feet.*	*Degrees.*
Over breast No. 12 to surface, ...	40	232	49	40
Side pressure between breasts Nos. 21 and 22, wall 22 feet thick, ...	25 to 30	230	49	40
Packer, No. 2, colliery.				
Over face of third level, ...	82	315	37 to 40	43
Breast at manway inside wall, ...	66	315	37 to 40	43
Continental colliery.				
Second level side pressure, ...	145	293	29	35
North Ashland.				
Second level side pressure, ...	190	280	29	32
Continental and North Ashland.				
Pillar between, ...	65 to 95	100	21	20 to 25

From the testimony of Mr. Frank G. Clemens, assistant mining engineer of the Lehigh Valley Coal Company, the following pressures of water are being sustained by pillars and dams in the Mahanoy region:

Section of the Mammoth vein at Packer colliery, No. 2, second level from the bottom.

Bottom bench coal,	2 feet	1 inch.
Leg breaker coal,	1 foot	0 inches.
Three-foot bench coal,	2 feet	4 "
Boney slate,		10 "
Five-foot bench coal,	4 "	6 "
Rough bench coal,	2 "	1 inch.
Hard slate,		4 inches.
Coal,	2 "	8 "
Bone,		2 "
Coal,	3 "	0 "
Bone and rock middle stone,	2 "	4 "
Coal,	5 "	10 "

Section of the Mammoth vein at Packer colliery, No. 2, second level from the bottom: (Con.)

"Divider" hard stone,	1 foot	0 inches.
Coal,	1 "	11 "
Bone,		6 "
Top bench coal,	3 feet	4 "
Bone,		4 "
Coal,		4 "

Section taken at foot slope near traveling way.

Lehigh Valley Coal Company's Packer Colliery, No. 2, Lost Creek.

LEVEL.	Thickness.	Height.		Width.	Height of water.
	Feet.	*Ft.*	*In.*	*Feet.*	*Feet.*
Fourth, First Dam,	10	15		18	390.12
Third, First Dam,	6	10	10	13	193.12

Pillar between breasts 43 and 44 on third level, Mammoth vein, at face, is 26 feet thick, and withstood a pressure due to vertical height of water 145 feet, 170 feet at heading 28 feet thick.

Chain pillar, between third and second levels from traveling way to breast 18, varies from 66 feet at traveling way to 139 feet thick at breast 18, and withstood the pressure of water standing 316.0 feet high.

Chain pillar 585 feet long; vein section shows 34.07; see accompanying section. The pillar between the old slope and the dump chute at breast No. 1, west second level, following thickness:

At gangway,	99 feet,	315.8 feet	water.
	85 "	283.6 "	"
	75 "	246.3 "	"
	65 "	200.0 "	"
	55 "	153.0 "	"

Another pillar between face heading and traveling way at third level is only 19 feet thick, and is now standing 178 feet out of water.

Fifth. The pillar at the deepest point would be subjected to a pressure of 315 feet of water, and is from 110 to 120 feet thick, and where the surveys showed the pillar to be thinnest, it was from 90 to 92 feet thick, and subjected to a pressure of 235 feet of water.

Mr. Heber S. Thompson, a mining engineer of high reputation, who has probably had more experience than any one in this State in the matter of holding water by dams and pillars, was asked the following question by the arbitrators: "Has your practical experience shown that, under the circumstances set forth above, a good solid pillar of coal sixty feet wide is capable of safely resisting the pressure of water in a mine under a head of 315 feet?" His answer was: "That his experience had shown that it was capable of doing it safely."

The width of the pillar being from 90 to 92 feet where thinnest, the head of water at that point being only 235 feet, and the dip of the vein being very slight, the arbitrators agreed unanimously that, in their opinion, it is safe to continue working in Jeddo even when Ebervale has filled up, but would recommend that no more coal should be mined in Jeddo within three hundred feet of the boundary pillar between Ebervale and Jeddo until the water has been taken out of Ebervale.

E. S. BULLOCK,
Arbitrator selected by Mine Inspector.
FRED. MERCUR,
Arbitrator selected by G. B. Markle & Co.
ECKLEY B. COXE,
Arbitrator selected by the other two.

Arbitration.

Having had doubts of the thickness of the barrier pillar between Yorktown, No. 6, and Tresckow, No. 6, I became concerned about the safety of the men in Yorktown, when the water had raised to a certain point at the old workings of Tresckow, No. 6.

As the lower workings of Yorktown, No. 6, were about to be abandoned, I requested Mr. George John, the superintendent, to comply with section 3, of article 3, which reads: "When any coal mine is worked out preparatory to being abandoned, or any lift thereof is about to be abandoned, the owner, operator or superintendent of such coal mine shall have the maps thereof extended to include all excavations as far as practicable, and such portions thereof as the case may require shall be CAREFULLY VERIFIED." Mr. John ordered a compliance with my request. Still I was not satisfied with the verification, as I doubted its accuracy, especially the accuracy of the workings in proxmity to the barrier pillar.

Without taking the matter to court, after consulting with Mr. John,

Mr. Elmer H. Lawall, of Beaver Brook, was requested to make a survey, locating the barrier pillar between Yorktown and Tresckow, and the workings in the immediate vicinity. Mr. Lawall's survey did not correspond with the map, or with the recent verification. Being satisfied that there was reasonable doubt of the size and strength of this barrier pillar, I requested Mr. John to stop all persons from entering Yorktown, No. 6, until the question of the strength of the pillar was settled. He complied by requesting an immediate arbitration, and also naming Mr. Elmer, H. Lawall to represent the company. The inspector named Mr. E. L. Bullock to represent him. The two arbitrators met and decided to name Mr. T. D. Jones as the third arbitrator.

The arbitrators met, but from the evidence submitted were unable to render a decision, without having that part of the mine resurveyed, and jointly requested Mr. T. S. McNair, of Hazleton, to make the necessary survey, which, with the original survey, accompanies the report of the arbitrators.

In the matter of the arbitration to decide the question of the safety of the Wharton vein pillar between Yorktown, No. 6, and Tresckow, No. 6, the following persons were present at the meeting, viz.: E. L. Bullock, arbitrator appointed by the inspector of mines; E. H. Lawall, arbitrator appointed by George John, superintendent for G. H. Myers & Co. Yorktown, and T. D. Jones, arbitratrator named by the other two; also James E. Roderick, inspector of mines; George John, superintendent, Yorktown; Wm. R. Symons, mining engineer for Yorktown; Jed I. Hollenback, J. Howard Duggan, superintendent and engineer respectively of the L. & W. C. Co.; Owen Evans, mining superintendent for Tresckow, and T. S. McNair, of Hazleton, resident engineer L. V. R. R. Co.

Mr. Owen Evans testified as to the pillar on the Mammoth vein, stating that an unusually large pillar, attaining an average thickness of eighty yards, was left remaining. This testimony was corroborated by George John, who at that time was inside superintendent in the Mammoth vein workings for Yorktown.

Mr. Owen Evans furthermore testified that, in 1878, the water in the Mammoth vein of Tresckow, slope No. 4, broke through into the Wharton workings below, which completely drained the Mammoth vein.

He also testified that the water in the Mammoth workings had at one time risen to the surface, showing that it had withstood the extreme pressure possible. Both Evans and John testified that this Mammoth pillar was left undisturbed since.

A survey of the pillar was made at the request of Mr. Roderick, the mine inspector, a copy of which is here annexed by two disinterested parties, Messrs. T. S. McNair and E. H. Lawall, to prove the accuracy

of the original survey. From this information, we find that the minimum thickness of the Wharton pillar below the level of the upper west gangway of Tresckow is twenty feet, with a pressure below the level of said gangway of forty-seven feet.

At the next nearest point the thickness is thirty feet, with a pressure below the level of said upper west gangway of one hundred and seventeen feet.

We find by the evidence of Owen Evans, mine foreman of Tresckow, No. 6, that the Wharton vein at the pillar was below the average thickness, having an average thickness of only seven feet, and consisting of very good strong coal, with no loose top clod. The stratum of rock immediately above the coal is about nine feet thick with no parting. No water has as yet made its appearance through the pillar.

From the above evidence, we find that the pillar is sufficiently strong to safely bear the now existing pressure; but we are of the opinion that this pressure should not be increased by allowing the water in the Tresckow workings to rise higher than the level of the upper west gangway.

We also recommend that no coal be taken from the Yorktown workings for a distance of three hundred feet west of the present face of the pillar, and below the level of the aforesaid upper west gangway.

E. L. BULLOCK,
Arbitrator selected by Mine Inspector.
E. H. LAWALL,
Arbitrator selected by G. H. Myers & Co.
T. D. JONES,
Arbitrator selected by the other two.

The Middle Coal Field Hospital.

There are no portions of the State of Pennsylvania where hospitals are more needed than in the anthracite coal districts. Peopled as these districts principally are by mine employés, who, at best earn but a precarious living at the risk of terrible physical suffering, or sudden death from the disastrous accidents incident to underground labor, it cannot be expected that the sick or the injured can receive at their homes the care and attention which their condition demands. The miner, or other employé of the middle coal field of Pennsylvania, who meets with any of the serious accidents common to his work, is either compelled to pass long months of weary suffering in his little miner's home, while his family is destitute of the very necessaries of life, or be railroaded to a hospital many miles distant, where, separated for months from home and kindred, his recovery is often retarded by acute mental anxiety for his family's welfare.

This condition of affairs, the frequency of mine accidents, the impossibility of securing the proper medical attention and nursing for

the afflicted at their homes, the natural feeling that prompts a sufferer to refuse to be separated from his kindred, and the vast amount of public good sure to follow the establishment of a public hospital at Hazleton, have prevailed on our people to petition the Legislature to erect such an institution in this borough. The attention of the Legislature has been directed to the prime necessity for the erection of a hospital in the Middle coal field on several previous occasions, but not until the present year has the movement taken definite shape, and been pressed forward with energetic effort. It is now supported by all the miners and mine employès in this district; by the many mine owners, operators, and superintendents, as well as by the local merchants and professional men. With such cordial support, we trust the movement will meet with the success which it deserves.

The inspector desires to direct the attention of the Legislature to several material reasons for granting an appropriation to erect a hospital in Hazleton or vicinity. The town is the center of a vast mining industry, which extends for many miles in every direction, and upon which the living of more than sixty thousand people depends. Serious accidents are constantly occurring in and about the mines, and to the unfortunate victims but one hospital is available where proper care and attention can be received. This one, St. Luke's Hospital, is located at Bethlehem, seventy miles from Hazleton, and every legislator will readily admit that the journey can only be attended with physical torture, if not loss of life, while at this hospital the injured man is completely isolated from his family and friends, because their condition in life will not permit the expense of a visit. With a public hospital in Hazleton, the victim of mine horrors could see his relatives and friends at stated periods, much to his enjoyment and their satisfaction.

The victims of mine accidents, which threaten fatal results, cannot with safety be sent to this one hospital. They must be cared for at home, where the crowded rooms, lack of proper ventilating facilities, and the prevalent poverty of mine employès prove a serious bar to recovery. Many of this class of sufferers would be saved from an untimely death if Hazleton possessed the hospital accommodations so much demanded. We state no imaginary case in referring to institutions of this character. Only too many victims of mine disasters die from want of proper attendance and careful nursing, while many more await slow recovery in their little homes, because the grievous nature of their injuries forbid a long journey to a distant hospital.

The appeal for hospital accommodations here is the heartfelt cry from the miners, from the victims of fire-damp, of falling rock and coal, and the hundred and one agencies that produce dire human suffering and abject misery. It is the cry of the wife who cannot buy what her stricken husband needs; the cry of the children, wit-

nesses of the abject condition of the parent; the cry of the mother for the medical treatment to her injured son, which she cannot afford. Aye, the cry of the afflicted for refuge in their distress—such a cry as should move the Legislature to prompt action in the premises.

The reports of the mine inspector for this district for six years past show an average of one hundred and forty-six non-fatal accidents of serious nature. The fatal fire-damp did its horrid work with many, while the balance suffered with fractured and broken collar-bones, ribs, arms, legs, feet and hands. The suffering of the victims was intense, but not five per centum of the whole were taken to the distant hospital.

Surely the miners of the Middle coal field have suffered long enough for the want of hospital accommodations, and full attention should now be given to their appeal for the only possible remedy, the erection of a hospital in Hazleton or vicinity.

The Lansford Beneficial Fund.

This noble institution was founded January, 1884, by the president, trustees, and William D. Zehner, the superintendent of the Lehigh Coal and Navigation Company, for the sole object of relieving the suffering and want of their injured employés, and the dependent families of persons killed in and about their mines. I have each year called the attention of the mining public to the good work of this beneficial fund, hoping that the men of other localities and the different companies would form similar institutions, but so far I have not heard of a move in this direction, made by either companies or men.

The only coal company that I know of, besides this company, that has any system established to care for the injured and the families left dependent on charity, the result of fatal accidents, is Coxe Bros. & Co., and the amount of suffering and want relieved by this company is unknown to me, as it is conducted solely as a private charity.

I would respectfully call the attention of the companies and the men to the great need of a beneficial fund, which will care for the needy about our coal mines, and, from my own personal knowledge, the number in need are numerous and deserving.

Following is a statement of the Lansford Fund for the year 1886, which will show the amount contributed by the men and company, also, the amount of benefits paid, the cash balance on hand, &c.:

STATEMENT of Lansford Beneficial Fund for year 1886.

Months.	Contributed by		Received for interest on investment.	Total contributions and receipts.	Benefits paid.	Expenses.	Invested in general mortgage loan of L. C. & Nav. Co.	Total payments.	Cash balance.
	Employés.	Company.							
Balance,									$12,475 08
January,	$830 75	$928 15		$1,758 90	$1,372 30	$73 68		$1,445 98	12,788 00
February,	713 90	568 94		1,282 84	1,213 95	40 00		1,253 95	12,816 89
March,	850 84	821 10		1,671 94	1,079 69	66 05	$10,225 00	11,370 74	3,118 09
April,	993 30	1,081 58		2,074 88	1,212 00	40 00		1,252 00	3,940 97
May,	743 54	636 66		1,380 20	1,159 73	40 00		1,199 73	4,121 44
June,	780 66	682 73		1,463 39	1,339 26	62 85		1,402 11	4,182 72
July,	785 82	711 72		1,497 54	1,385 89	46 35		1,422 24	4,248 02
August,	907 69	882 64	$225 00	2,015 33	1,608 88	45 35		1,654 23	4,609 12
September,	954 57	1,027 33		1,981 90	1,382 57	40 00		1,432 57	5,168 45
October,	938 83	1,011 71		1,950 54	1,323 47	43 20		1,366 67	5,752 32
November,	1,056 46	1,161 20	112 50	2,330 16	1,566 97	42 00		1,608 97	6,473 51
December,	951 54	1,031 44	188 36	2,171 34	1,738 04	61 60		1,799 64	6,845 21
	$10,507 90	$10,545 20	$525 86	$21,578 96	$16,382 75	$601 08	$10,225 00	$27,208 83	
Balance on hand December 31st, 1886,									$6,845 21

During the years 1884, 1885, and 1886, the men and the company paid into this fund the sums of $28,217 88 and $30,912 22, respectively, to which $902 42 interest on investment were added, making the total receipts the round sum of $60,032 52.

The men that were injured and the families of persons killed during the same years received the sum of $42,059. $902 42 were paid for expenses, leaving a cash balance on hand the first day of January, 1887, of $17,070 26.

Now, if one company, mining only a million tons of coal per year, can, with the assistance of employés, produce such good results in three years, what would be the result if the men and companies mining about thirty-two million tons per year were combined in this good work? The result would be that over $1,300,000 would have been distributed during the last three years among the sufferers from accidents in and about the anthracite coal mines of Pennsylvania, besides leaving a grand balance of over $500,000 on hand for emergencies, or great calamities, such as those of Nanticoke, West End, Scranton, and other places.

The mining of coal is getting more dangerous every year, and calamities such as the above will happen in the future as in the past. Why, therefore, not prepare to meet these emergencies?

TABLE No. 1—Showing Location of Collieries in the Fourth Anthracite District.

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Hazleton Mine,	A. Pardee & Co.,	Haz'e township, Luzerne county,	Frank Pardee,	Hazleton, Luzerne county, Pa.
Laurel Hill,	Do. do.	Hazleton borough, Luzerne county,	Do. do.	Do. do.
East Crystal Ridge,	Do. do.	Hazle township, Luzerne county,	Do. do.	Do. do.
Cranberry,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Number Three,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Number Six,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
South Sugar Loaf,	Do. do.	Do. do. do. do.	Hon. E. B. Coxe,	Drifton, Luzerne county, Pa.
Cross Creek, No. 1,	Coxe Bros. & Co.,	Do. do. do. do.	Do. do.	Do. do.
Cross Creek, No. 2,	Do. do.	Foster township, Luzerne county,	Do. do.	Do. do.
Eckley, No. 2,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Eckley, No. 5,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Tomhicken,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Derringer,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Gowen,	Do. do.	Do. do. do. do.	W. D. Zehner,	Lansford, Carbon county, Pa.
Beaver Meadow,	Lehigh Coal and Navigation Company,	Do. do. do. do.	Do. do.	Do. do.
Nesquehoning, No. 3,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Lansford, No. 4,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Lansford, No. 5,	Do. do.	Hazle township, Luzerne county,	S. D. Kynor,	Stockton, Luzerne county, Pa.
Lansford, No. 6,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Lansford, No. 9,	Linderman, Skeer & Co.,	Do. do. do. do.	Do. do.	Do. do.
East Sugar Loaf, No. 1,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
East Sugar Loaf, No. 2,	Do. do.	Do. do. do. do.	John Markle,	Jeddo, Luzerne county, Pa., or Hazleton, Luzerne county, Pa.
East Sugar Loaf, No. 3,	Do. do.	Do. do. do. do.	Do. do.	Jeddo, Luzerne county, Pa., or Hazleton, Luzerne county, Pa.
East Sugar Loaf, No. 5,	Do. do.	Foster township, Luzerne county,	Do. do.	Jeddo, Luzerne county, Pa., or Hazleton, Luzerne county, Pa.
Humboldt,	G. B. Markle & Co.,	Do. do. do. do.	Albert Leisenring,	Jeddo, Luzerne county, Pa., or Hazleton, Luzerne county, Pa.
Oak Dale, No. 1,	Do. do.	Do. do. do. do.	Do. do.	Upper Lehigh, Luzerne Co., Pa.
Oak Dale, No. 2,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Highland, No. 1,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Highland, No. 2,	Do. do.	Hazle township, Luzerne county,	Calvin Pardee,	Hazleton, Luzerne county, Pa.
Upper Lehigh, No. 2,	Upper Lehigh Coal Company,	Do. do. do. do.	Do. do.	Do. do.
Upper Lehigh, No. 4,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Upper Lehigh, No. 5,	Do. do.	Do. do. do. do.	J. C. Haydon,	Jeanesville, Luzerne county, Pa.
Upper Lehigh, No. 6,	Do. do.	Hazle township, Luzerne county,	Do. do.	Do. do.
Lattimer, No. 1,	Pardee Bros. & Co.,	Do. do. do. do.	Do. do.	Do. do.
Lattimer, No. 2,	Do. do.	Do. do. do. do.	George John,	Audenried, Carbon county, Pa.
Lattimer, No. 3,	Do. do.	Do. do. do. do.	Do. do.	Do. do.
Spring Mountain, No. 1,	J. C. Haydon & Co.,	Do. do. do. do.	Albert Leisenring,	Sandy Run, Luzerne county, Pa.
Spring Mountain, No. 4,	Do. do.	Carbon county,		
Spring Mountain, No. 7,	Do. do.	Do. do.		
Yorktown, No. 5,	G. H. Myers & Co.,	Foster township, Luzerne county,		
Yorktown, No. 6,	Do. do.			
Sandy Run,	M. S. Kemmerer & Co.,			

TABLE No. 1—*Continued.*

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post Office Address.
Mount Pleasant,	. . . . .	. . . . .	Calvin Pardee, . . .	Hazleton, Luzerne county, Pa.
Beaver Brook, ...	G. M. Dodson & Co., ...	Carbon county, ...	E. L. Bullock, . . .	Beaver Brook, Luzerne co., Pa.
Treskow, ...	Lehigh and Wilkes-Barre Coal Company,	Do. do.	Jed. I. Hollenback, .	Audenried, Carbon county, Pa.
Coleraine, ...	William T. Carter & Co., ...	Do. do.	John Wear, ...	Beaver Meadow, Carbon co., Pa.
Hollywood, ...	. . . . .	Hazle township, Luzerne county,	Calvin Pardee, ...	Hazleton, Luzerne county, Pa.
Milnesville, ...	Stout Coal Company, ...	Do. do. do. do. . .	Charles Kerbaugh, . .	Milnesville, Luzerne county, Pa.
Hazle Brook, ...	I. S. Wentz & Co., ...	Foster township, Luzerne county,	I. S. Wentz, ...	Mauch Chunk, Carbon co., Pa.
Black Ridge, ...	Black Ridge Coal Company, ...	Hazle do. do. do. .	Do. do. . .	Do. do.
Harleigh, ...	M. S. Kemmerer & Co., ...	Do. do. do. do. .	M. S. Kemmerer, .	Do. do.
Ebervale, ...	Ebervale Coal Company, ...	Do. do. do. do. . .	T. D. Jones, ...	Ebervale, Luzerne county, Pa.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Fourth Anthracite District for the year ending December 31, 1886.

A. PARDEE & CO.

NAME OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Hazleton Mines,	Hazleton, Luzerne county,	118,691	113,425.19	232.3	321	. . .	9	1,258	39	44	1
Laurel Hill,	Hazleton, Luzerne county,	46,583	39,671.10	167.8	259	. . .	2	647	48	32	1
East Crystal Ridge,	Hazleton, Luzerne county,	. . . . .	. . . . .	. . . .	. . .	1	1	. . . .	19		
Cranberry,	Hazleton, Luzerne county,	133,299	124,052.17	212	440	1	7	3,123	35	54	3
Number Three,	Hazleton, Luzerne county,	71,726	65,791.10	217.5	215	1	1	1,214	30	26	
Number Six,	Hazleton, Luzerne county,	117,809	116,459.09	241.5	202	. . .	. . .	1,884	10	31	
South Sugar Loaf,	Hazleton, Luzerne county,	55,279	52,038.01	195.8	130	. . .	4	1,181	24	17	
Men at general work,	. . . . .	. . . . .	. . . . .	. . . .	81	. . .	. . .	. . . .	. . .	41	
Totals,	. . . . .	543,387	512,839.06	. . . .	1,648	3	24	9,307	205	245	5

COXE BROS. & CO.

Cross Creek, No. 1,	Drifton, Luzerne county,	492,582	453,238.03	281	1,057	4	6	10,716	53	108	4
Cross Creek, No. 2,	Drifton, Luzerne county,					4	3				
Eckley, No. 2,	Eckley, Luzerne county,	36,499	33,012.00	92	348	. . .	1	1,227	17	18	1
Eckley, No. 5,	Eckley, Luzerne county,	137,637	125,574.00	279	299	. . .	2	2,395	18	28	
Tomhicken,	Luzerne county,	82,460	75,354.03	200	225	1	2	2,528	3	25	1
Derringer,	Luzerne county,	288,185	276,021.15	284	793	1	1	8,415	20	64	4
Gowen,	Luzerne county,					1	4				
Beaver Meadow,	Carbon county,	189,323	181,372.15	284	369	3	2	2,929	12	26	1
Totals and averages,	. . . . .	1,226,685	1,144,572.16	265.6	3,091	14	21	28,210	123	269	11

TABLE No. 2—*Continued*.

LEHIGH COAL AND NAVIGATION COMPANY.

NAME OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
Nesquehoning, No. 3,	Carbon county,	170,318	143,777.16	216	469	2	4	1,699	28	56	5
Lansford, No. 4,	Carbon county,	156,476	146,476.12	219.7	347	. . .	. . .	840	36	66	
Lansford, No. 5,	Carbon county,	142,804	134,804.11	249.9	248	1	4	1,620	6	22	1
Lansford, No. 6,	Carbon county,				211	. . .	. . .	. . . .	18	18	1
Lansford, No. 9,	Carbon county,	161,861	157,461.16	251.8	378	. . .	1	360	22	66	3
Screen building,	. . . . .	. . . . .	. . . . .	. . . .	138	. . .	. . .	. . . .	26	3	2
Totals and averages,	. . . . .	631,459	582,520.15	281.3	1,792	3	9	4,519	186	231	12

LINDERMAN, SKEER & CO.

East Sugar Loaf, No. 1,	Stockton, Luzerne county,	7,818	4,545.05	14.6	51	. . .	. . .	314	10	4	
East Sugar Loaf, No. 2,	Stockton, Luzerne county,	86,826	80,395.02	222.4	251	2	2	1,195	29	21	1
East Sugar Loaf, No. 3,	Stockton, Luzerne county,	110,926	104,147.16	252 1	167	2	12	2,164	20	14	1
East Sugar Loaf, No. 5,	Stockton, Luzerne county,	102,278	94,814	246.3	297	3	4	1,318	46	25	1
Humboldt,	Humboldt, Luzerne county,	80,793	76,220.03	206.9	246	. . .	. . .	1,814	29	14	1
Totals and averages,	. . . . .	396,641	360,122.06	231.9	1,015	7	8	6,805	134	78	4

G. B. MARKLE & CO.

Oak Dale, No. 1,	Jeddo, Luzerne county,	. . . . .	113,297.11	218	231	. . .	6	1,509	27	51	1
Oak Dale, No. 2,	Jeddo, Luzerne county,	. . . . .	104,815.10	201	249	1	1	1,832	28	50	1
Highland, No. 1,	Jeddo, Luzerne county,	. . . . .	128,397.06	212	251	1	1	2,734	21	58	
Highland, No. 2,	Jeddo, Luzerne county,	. . . . .	126,285.09	207	243	. . .	3	2,565	18	53	
Totals and averages,	. . . . .	501,141	472,775.16	209.5	980	2	11	8,610	94	212	2

UPPER LEHIGH COAL COMPANY.

Upper Lehigh, No. 2,	Luzerne county,	.....	170,789.08	247	429	...	3	5,145	48	51	3
Upper Lehigh, No. 4,	Luzerne county,	.....	183,950.05	258	257	1	6	3,677	16	44	1
Totals and averages,		385,079	354,739.13	252.5	686	1	9	8,822	64	95	4

PARDEE BROS. & CO.

Lattimer, No. 2,	Luzerne county,	98,784	75,855	186	295	...	3	1,585	34	37	1
Lattimer, No. 3,	Luzerne county,	100,497	94,025	205	263	...	2	1,625	15	26	1
Totals and averages,		199,281	169,880	195.5	558	...	5	3,210	49	63	2

J. C. HAYDON & CO.

Spring Mountain, No. 1,	Jeanesville, Luzerne county,	112,273	101,047.15	222	255	1	2	2,340	37	39	1
Spring Mountain, No. 4,	Jeanesville, Luzerne county,	139,768	125,793.04	230	271	...	2	2,420	33	45	
Totals and averages,		252,040	226,840.19	226	526	1	4	4,760	70	84	1

G. H. MYERS & CO.

Yorktown, No. 5,	Carbon county,	71,068	56,068.18	159	174	1	3	925	32	24	1
Yorktown, No. 6,	Carbon county,	107,249	95,259.06	213.8	310	...	1	1,744	28	49	1
Totals and averages,		178,317	151,328.04	186.4	484	1	4	2,669	60	73	2

MISCELLANEOUS COMPANIES.

Sandy Run,	Luzerne county,	146,341	135,078.07	275.7	362	1	4	2,240	24	48	1
Mount Pleasant,	Luzerne county,	149,136	132,924.13	197.5	410	...	4	3,070	45	45	1
Beaver Brook,	Luzerne county,	178,011	162,281.05	190.4	370	...	1	3,690	42	28	1
Hollywood,	Luzerne county,	119,393	110,393.03	200.6	332	1	2	2,617	29	42	1
Milnesville,	Luzerne county,	109,115	100,015.17	241	239	...	2	1,234	29	23	1
Coleraine,	Carbon county,	94,846	88,030.00	211	319	...	3	1,880	32	32	1
Tresckow,	Carbon county,	71,025	70,055.04	206	291	1	4	2,251	36	29	1
Pond Creek,	Luzerne county,	49,465	46,332.06	275.7	96	...	...	1,859	6	15	1
Harleigh,	Luzerne county,	6,466	5,779.14	43.5	82	...	1	52	18	7	1
Hazle Brook,	Luzerne county,	38,965	36,065.00	195	137	...	3	890	16	11	
Black Ridge,	Luzerne county,	56,722	52,522.04	248	182	...	4	1,800	12	10	1
Ebervale, Nos. 1 and 3, (idle during 1886,)	Luzerne county.										
Totals and averages,		1,019,488	939,477.13	207.6	2,820	3	29	21,583	289	290	10

TABLE No. 2—*Continued.*

RECAPITULATION.

NAME OF COLLIERIES.	LOCATION.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules.	Number mine locomotives.
A. Pardee & Co.,	Luzerne county,	543,387	512,889.06	211.5	1,648	3	24	9,307	205	245	5
Coxe Bros. & Co.,	Luzerne and Carbon counties,	1,226,685	1,144,572.16	265.6	3,091	14	21	28,210	123	269	11
Lehigh Coal and Navigation Company,	Carbon county,	631,459	582,520.15	234.3	1,792	3	9	4,519	136	231	12
Linderman, Skeer & Co.,	Luzerne county,	396,641	360,122.06	231.9	1,025	7	8	6,805	134	78	4
G. B. Markle & Co.,	Luzerne county,	501,141	472,775.16	209.3	980	2	11	8,640	94	212	2
Upper Lehigh Coal Company,	Luzerne county,	385,079	354,739.18	252.5	686	1	9	8,822	64	95	4
Pardee Bros. & Co.,	Luzerne county,	199,281	169,880.00	195.5	558	. . .	5	3,210	49	63	2
J. C. Haydon & Co.,	Luzerne county,	252,040	226,840.19	226	526	1	4	4,760	70	84	1
G. H. Myers & Co.,	Carbon county,	178,317	151,328.01	186.4	484	1	4	2,669	60	78	2
Miscellaneous companies,	Luzerne and Carbon counties,	1,019,488	930,447.13	207.6	2,820	3	29	21,583	289	290	10
Men at strippings and other work,	. . . . .	. . . . .	. . . . .	. . . .	530						
Totals and averages,	. . . . .	5,333,518	4,915,096.08	221	14,140	35	124	98,525	1,224	1,640	53

TABLE No. 3.—Showing the number of each class of employés at each colliery in the Fourth Anthracite District during the year 1886.

A. PARDEE & CO.

Names of Collieries.	Location.	Number of Persons Employed Inside.							Number of Persons Employed Outside.							Grand totals—inside and outside
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, book-keepers, and clerks.	Total outside.	
Hazleton Mine,	Hazleton, Luzerne county,	1	82	34	27	16	7	167	1	5	15	69	64	...	154	321
Laurel Hill,	Hazleton, Luzerne county,	1	45	47	24	15	2	134	1	8	19	60	37	...	125	259
East Crystal Ridge,	Hazleton, Luzerne county,	B	reak	er	Idle	duri	ng	1886.								
Cranberry,	Hazleton, Luzerne county,	1	157	55	34	32	6	285	1	10	21	73	50	...	155	440
Number Three,	Hazleton, Luzerne county,	1	65	23	13	10	3	115	1	4	11	52	22	10	100	215
Number Six,	Hazleton, Luzerne county,	1	33	40	7	7	3	91	1	4	4	80	33	...	111	202
South Sugar Loaf,	Hazleton, Luzerne county,	1	38	14	7	6	5	71	1	3	8	33	14	...	59	130
Men at general work,	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	81	81
Totals,	.....	6	410	213	112	96	26	863	6	34	78	367	209	10	785	1,648

COXE BROS. & CO.

Cross Creek, No. 1,	Drifton, Luzerne county,	3	279	163	155	34	27	661	6	27	26	216	119	2	396	1,057
Cross Creek, No. 2,	Drifton, Luzerne county,															
Eckley, No. 2,	Eckley, Luzerne county,	2	55	69	45	7	4	182	4	16	13	101	31	1	166	348
Eckley, No. 5,	Eckley, Luzerne county,	1	55	51	36	9	11	163	3	10	12	77	33	1	136	299
Tomhicken,	Luzerne county,	1	50	16	35	11	3	116	3	8	10	63	24	1	109	225
Derringer,	Luzerne county,	2	264	60	112	31	21	490	5	26	23	184	61	4	303	793
Gowen,	Luzerne county,															
Beaver Meadow,	Carbon county,	1	88	33	43	11	11	187	3	17	14	113	33	2	182	369
Totals,	.....	10	791	392	426	103	77	1,799	24	104	98	754	301	11	1,292	3,091

TABLE No. 3—*Continued.*

LEHIGH COAL AND NAVIGATION COMPANY.

NAMES OF COLLIERIES.	Location.	NUMBER OF PERSONS EMPLOYED INSIDE							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—Inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, book-keepers, and clerks.	Total outside.	
Nesquehoning, No. 3,	Carbon county,	2	87	70	69	31	27	286	1	9	19	83	66	2	183	469
Lansford, No. 4,	Carbon county,	1	43	15	110	23	13	205	1	4	18	76	41	2	142	347
Lansford, No. 5,	Carbon county,	1	59	8	36	6	8	118	1	7	8	67	45	2	130	248
Lansford, No. 6,	Carbon county,	1	18	5	135	15	7	181	..	9	11	....	8	2	30	211
Lansford, No. 9,	Carbon county,	1	57	29	122	21	5	235	1	6	13	66	56	2	144	379
Screen building,		..	....	....	....	....	....	....	1	5	6	65	60	2	138	138
Totals,		6	234	127	472	96	60	1,025	5	40	75	360	285	12	767	1,792
LINDERMAN, SKEER & CO.																
East Sugar Loaf, No. 1,	Stockton, Luzerne county,	1	14	23	1	3	...	42	..	...	4	....	8	2	14	56
East Sugar Loaf, No. 2,	Stockton, Luzerne county,	1	61	53	28	11	2	156	1	3	8	45	38	2	97	253
East Sugar Loaf, No. 3,	Stockton, Luzerne county,	1	40	21	4	11	7	84	1	3	9	28	42	2	85	169
East Sugar Loaf, No. 5,	Stockton, Luzerne county,	2	52	27	74	15	8	178	1	4	10	56	48	2	121	299
Humboldt,	Stockton, Luzerne county,	1	41	48	11	9	...	110	1	5	12	39	79	2	138	248
Totals,		6	208	172	118	49	17	570	4	15	43	168	215	10	455	1 025
G. B. MARKLE & CO.																
Oak Dale, No. 1,	Jeddo, Luzerne county,	1	84	12	14	14	13	138	1	3	6	40	41	5	96	234
Oak Dale, No. 2,	Jeddo, Luzerne county,	1	86	22	11	16	15	151	1	3	5	38	46	5	98	249
Highland, No. 1,	Jeddo, Luzerne county,	1	93	17	18	18	11	158	1	3	4	36	47	5	96	254
Highland, No. 2,	Jeddo, Luzerne county,	1	8	23	12	18	12	150	1	3	5	40	39	5	93	243
Totals,		4	347	74	55	66	51	597	4	12	20	154	173	20	383	980

UPPER LEHIGH COAL COMPANY.

Upper Lehigh, No. 2, including Nos. 1, 2, 5,	Luzerne county,	2	53	51	14	28	5	154	1	10	17	75	46	9	158	312
Upper Lehigh, No. 2 including Nos 6 & 7,	Luzerne county,	1	40	39	8	7	3	99		3	6		9		18	117
Upper Lehigh, No. 4,	Luzerne county,	1	62	68	9	11	8	157	1	4	7	52	6		100	257
Totals,		4	155	158	31	46	16	410	2	17	30	127	61	9	276	686

PARDEE BROS. & CO.

Lattimer, No. 1,	Luzerne county,		12	17	3	3	2	37		4	6		4	1	15	52
Lattimer, No. 2,	Luzerne county,	1	58	17	34	14	5	129	1	3	8	64	38		114	243
Lattimer, No. 3,	Luzerne county,	1	62	17	7	11	5	103	1	4	5	65	78	7	160	263
Totals,		2	132	51	44	28	12	269	2	11	19	129	127	8	289	558

J. C. HAYDON & CO.

Spring Mountain, No. 1,	Jeanesville, Luzerne county,	1	50	47	16	19	4	137	1	5	14	40	53	5	118	255
Spring Mountain, No. 2,	Jeanesville, Luzerne county,	1	52	49	21	21	6	150	1	6	12	51	51		121	271
Totals,		2	102	96	37	40	10	287	2	11	26	91	104	5	239	526

G. H. MYERS & CO.

Yorktown, No. 5,	Carbon county,	1	28	20	11	6	3	69	1	6	10	37	50	1	105	174
Yorktown, No. 6,	Carbon county,	1	50	47	16	10	4	128	1	6	7	49	117	2	182	310
Totals,		2	78	67	27	16	7	197	2	12	17	86	167	3	287	484

*Including men at stripping.

TABLE No. 3—*Continued.*

MISCELLANEOUS COMPANIES.

NAMES OF COLLIERIES.	Location.	NUMBER OF PERSONS EMPLOYED INSIDE.							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate-pickers.	All company men.	Superintendent, bookkeepers, and clerks.	Total outside.	
Sandy Run,	Luzerne county,	1	58	54	27	20	17	177	2	7	13	80	79	4	185	362
Mount Pleasant,	Luzerne county,	2	101	57	20	21	5	206	1	10	14	112	64	3	204	410
Beaver Brook,	Luzerne county,	1	64	90	14	14	6	189	1	7	16	70	*82	5	181	370
Hollywood,	Luzerne county,	1	27	....	91	17	1	137	3	12	12	110	53	5	195	332
Milnesville,	Luzerne county,	1	34	....	7	7	3	52	2	7	14	70	91	3	187	239
Coleraine, Nos. 1 and 2,	Carbon county,	2	52	61	37	22	6	180	2	5	14	80	35	3	139	319
Treskow,	Carbon county,	1	41	32	56	17	6	153	1	4	15	69	47	2	138	291
Pond Creek,	Luzerne county,	1	38	23	7	5	6	80		2	4	....	10		16	96
Harleigh,	Luzerne county,	1	6	6	20	2	1	36	1	2	3	32	6	2	46	82
Hazle Brook,	Luzerne county,	1	38	18	8	12	3	80	1	3	8	25	16	4	57	137
Black Ridge,	Luzerne county,	1	57	25	8	5	2	98	1	3	12	36	28	4	84	182
Ebervale, Nos. 1 and 3,	Luzerne county,		Idle	durl	ng 18	83.										
Totals,		13	516	366	295	142	56	1,388	15	62	125	684	511	35	1,432	2,820

RECAPITULATION.

A. Pardee & Co.,		6	410	213	112	96	26	863	6	34	78	367	209	10	785	1.648
Coxe Bros. & Co.,		10	791	392	426	103	77	1,799	24	104	98	754	301	11	1 292	3 091
Lehigh Coal and Navigation Company,		6	264	127	472	96	60	1 025	5	40	75	36	285	12	767	1,792
Linderman, Skeer & Co.,		6	208	172	118	49	17	570	4	15	43	168	215	10	455	1,025
G. B. Markle & Co.,		4	347	74	55	66	51	597	4	12	20	154	173	20	383	980
Upper Lehigh Coal Company,		4	155	158	31	46	16	410	2	17	30	127	91	9	276	686
Pardee Bros. & Co.,		2	132	51	44	28	12	269	2	11	19	129	127	8	289	558
J. C. Haydon & Co.,		2	102	96	37	40	10	287	2	11	26	91	104	5	239	526
G. H. Myers & Co.,		2	78	67	27	16	7	197	2	12	17	86	167	3	287	484
Miscellaneous companies,		13	516	366	295	142	56	1,388	15	62	125	684	511	35	1,432	2 820
Men employed at strippings,		..	....	....	....	....	....	....	..	....	....	....	....	....	530	530
Totals,		55	3,003	1,716	1,617	682	332	7,405	68	318	531	2 596	2,183	123	6,735	14,140

*Including stripping.

A Brief Review of Fatal Accidents and their Causes for the year 1886.

Fatal accidents in and about coal mines are generally numerous and heartrending, but I am happy to state that fewer accidents occurred in this district during the year 1886 than during any previous year of my term of office. I attribute this decrease in a great measure to the efficiency of the new mine law, the provisions of which cover all, or nearly all, of the details of the mining and the preparing of coal.

The mine foremen and the employés generally deserve some credit for this reduction in fatal accidents, yet there is room for great improvement in this direction, especially on the part of the employés inside and outside of the mines.

It will be seen, by referring to Table A, that twenty-five persons lost their lives inside of the mines through the various accidents, and out of these twelve, or forty-eight per cent., were through falls of coal and slate.

After looking carefully into the causes that led these persons to lose their lives, I can safely say that only four of them should be considered accidents that the victims themselves could not have guarded against. Seven of them lost their lives through their own neglect and carelessness, and one, a laborer, through the neglect of the miner.

Through the joint carelessness of the victim and the foreman, one life was lost through an explosion of gas.

With a little care and forethought on the part of the men themselves, the two fatal accidents through premature blast would not have occurred.

Of the seven persons that lost their lives through accidents from mine cars, only two were accidents that the victims themselves, even with ordinary care, could not have prevented.

Of the three miscellaneous accidents inside of the mines, only one of them should be termed "accident;" the other two lost their lives through their own blundering and carelessness.

After a careful summary of the causes of these accidents, I consider that eighteen, or 72 per cent., can be traced to the neglect or carelessness of the victims themselves, and I don't know that a law can be enacted and enforced that will prevent mine employés from making these fatal blunders.

By referring again to Table A, it will be seen that ten persons lost their lives by the different fatal accidents outside of the mines. Four lost their lives at strippings—two by falls, and two by blasts. With ordinary care on the part of the victims themselves, and more care and experience on the part of the foremen, these accidents could not have occurred.

The two fatal accidents by cars, on the surface, are evidence of how careless persons can be while riding on mine cars; and two of the three fatal accidents, termed miscellaneous in the table, happened through the gross neglect of the parties themselves.

I consider that eight, or 80 per cent., of these fatal accidents on the surface should not have happened. The result of last year, and prior years, shows that more accidents occur at strippings than inside of the mines, in proportion to the number employed. It should not be so, as undoubtedly the work of mining inside of the mines is more dangerous than the mining of coal on the surface. Then the reason for this disproportionate number of accidents rest on other causes. My reason for it is, that the men that are employed at these strippings are not as well informed as inside workers generally, and I know it to be a fact that the men at strippings are often working under the instructions of men of less experience than themselves. Through the inefficiency of these foremen, and the carelessness of the employés, several persons lost their lives during the year 1886.

TABLE No. 4—List of fatal accidents occurring in and about the mines of the Fourth Anthracite Mine District, for the year ending December 31, 1886.

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.		Nature and Cause of Accident.
Jan. 20	1	William McGee, . .	Laborer, . . .	50	1	5	Beaver Meadow, ...	Beaver Meadow,	Carbon,	Fatally injured by a fall of coal.
26	2	Frank Ferry, . . .	Laborer, . . .	44	1	3	No. 4, ...	Upper Lehigh,	Luzerne,	Was killed by a prop falling on him.
Feb. 3	3	William Bray, . . .	Miner, ...	36	1	4	No. 5, ...	Stockton,	do.	Killed by a fall of coal.
8	4	John Kilkelly, . . .	Fireman, . . .	28	1	1	No. 1, ...	Drifton,	do.	Killed by a boiler explosion.
Mar. 1	5	Michael Gallock, .	Outside lab'r,	28	1	2	No. 5, ...	Yorktown,	Carbon,	Killed by a premature blast.
18	6	John Mathey, . . .	Outside lab'r,	30	. .	. .	No. 5, ...	Stockton,	Luzerne,	Was killed by a fall of clay at stripping.
April 9	7	George Showoskey,	Outside lab'r,	36	1	3	No. 2, ...	Drifton,	do.	Was smothered in culm shute at breaker.
17	8	Charles Nowak, . .	Slate-picker, .	12	. .	. .	No. 6, ...	Tresckow,	Carbon,	Fatally injured by falling from a trestling.
27	9	John Dougherty, .	Miner, ...	32	1	5	No. 2, ...	Stockton,	Luzerne,	Killed by a fall of clod in an airway.
May 15	10	William Gipper, . .	Platform man,	65	. .	. .	No. 5, ...	Lansford,	Carbon,	Killed; fell into breaker machinery.
June 17	11	Ernest Wagner, . .	Miner, ...	40	1	4	No. 1, ...	Highland.	Luzerne,	Killed by a prop falling on him.
21	12	Thomas McGee, . .	Miner, ...	38	. .	. .	No. 7, ...	Jeanesville,	do.	Was killed by a fall of coal at face of breast.
July 2	13	John Drushaning, .	Outside lab'r,	35	1	2	No. 5, ...	Stockton,	do.	Killed by a fall of clay at stripping.
15	14	John Wallace, . . .	Miner, ...	27	. .	. .	No. 3, ...	Stockton,	do.	Fatally injured by mine cars.
19	15	Martin Maybe, . . .	Foreman, . .	36	1	. .	No. 2, ...	Stockton,	do.	Killed by cars on the slope.
20	16	John Voorick, . . .	Loader, . . .	21	1	. .	No. 1, ...	Drifton,	do.	Fatally injured by cars at breaker.
23	17	Nicholas Deffrato, .	Miner, ...	27	. .	. .	No, 3, ...	Hazleton,	do.	Instantly killed by a fall of slate near face of breast.
26	18	Michael Sisach, . .	Laborer, . . .	23	. .	. .	No. 2, ...	Drifton,	do.	Smothered by a rush of coal at bottom of new slope.
Aug. 2	19	George Black, . . .	Miner, ...	35	. .	. .	No. 3, ...	Stockton,	do.	Killed; fell between mine cars while riding on surface.
6	20	Condy Timony, . .	Driver, ...	22	. .	. .	Tomhicken, ...	Tomhicken,	do.	Killed; was caught between a mine car and a prop.
10	21	Joseph Madzin, . .	Laborer, . . .	48	1	4	Beaver Meadow, ...	Beaver Meadow,	Carbon,	Fatally injured by mine cars at stripping.
11	22	John P. Gallagher,	Miner, ...	30	. .	. .	No. 2, ...	Drifton,	Luzerne,	Was killed by a premature blast.
Sept. 6	23	Owen McGorry, . .	Miner, ...	60	1	. .	No. 3, ...	Nesquehoning,	Carbon,	Fatally injured by a fall of coal, and died on the 9th.
9	24	Fred. Keimbaog, .	Miner, ...	35	1	2	Cranberry, ...	Hazleton,	Luzerne,	Instantly killed by a fall of clod.
18	25	Frantz Brighto, . .	Miner, ...	27	. .	. .	Derringer, ...	Derringer,	do.	Killed by a premature blast
Oct. 14	26	Lafay'te Carpenter,	Laborer, . . .	35	1	. .	Crystal Ridge, ...	Hazleton,	do.	Killed by falling out of a car while being hoisted.
16	27	Martin Romansky,	Miner, ...	42	1	6	Oak Dale, No. 2, ...	Jeddo,	do.	Killed by a fall of coal at face of breast.
Nov. 4	28	Peter Horrooanus,	Laborer, . . .	22	. .	. .	Hollywood Strippings, ...	Hollywood,	do.	Killed by a piece of coal from a blast while nearly one hundred yards away.

TABLE No. 4—*Continued.*

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.		Nature and Cause of Accident.
Nov. 13	29	Henry Thomas, . .	Miner, ...	35	. .	. .	No. 3, ...	Nesquehoning,	Carbon,	Fatally burned by an explosion of gas; died in a week.
16	30	Thomas Jones, . .	Door-tender, .	16	. .	. .	No. 1, ...	Drifton,	Luzerne,	Killed; was caught between cars.
19	31	Cornelius Gallagher	Miner, ...	67	1	. .	Beaver Meadow, ...	Beaver Meadow,	Carbon,	Fatally injured by fall of clod which knocked him over bottom coal.
24	32	George Rice, ...	Laborer, . . .	18	. .	. .	Gowen, ...	Gowen,	Luzerne,	Killed by a fall of slate.
Dec. 18	33	Ralph Speradis, . .	Miner, ...	26	. .	. .	No. 2, ...	Drifton,	do.	Killed by a fall of coal.
22	34	John Stewart, . . .	Miner, ...	35	. .	. .	Sandy Run, ...	Sandy Run,	do.	Fatally injured by a fall of coal; died on the 25th.
29	35	Patrick Gallagher,	Laborer, . . .	52	. .	. .	Drifton, No. —, ...	Drifton,	do.	Killed; was run over by a locomotive.
					17	41				

NATIONALITY BY BIRTH OF PERSONS KILLED AND FATALLY INJURED AS PER TABLE NO. 4.

Irish, ...	11
Hungarians, ...	9
Americans, ...	3
Germans, ...	3
English, ...	2
Welsh	2
Polanders, ...	2
Austrians, ...	2
Italians, ...	1
	35

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the Fourth Anthracite District for the year ending December 31, 1886.

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 10	1	James McHugh,	Driver,	18	Hazle Brook,	Hazle Brook, Luzerne,	Severely injured by mine cars.
12	2	George Michael,	Miner,	32	Pond Creek,	Pond Creek, do.	Arm fractured; caught between car and roof.
14	3	Dominic Dougherty,	Miner,	40	No. 2,	Mt. Pleasant, do.	Leg fractured by a fall of slate.
15	4	Amei Job,	Sig runner,	24	Harleigh,	Harleigh, do.	Hand crushed; caught in a gig.
16	5	Rees Lewis,	Carpenter,	50	Beaver Brook,	Beaver Brook, do.	Collar bone fractured by a falling column pipe.
19	6	John Cheston,	Outside laborer,	35	No. 4,	Stockton, do.	Leg fractured by a fall of clay at stripping.
20	7	Fori Andrew,	Outside laborer,	38	No. 9,	Yorktown, Carbon,	Leg fractured by a fall of clay at stripping.
20	8	John Himme,	Miner,	40	No. 1,	Drifton, Luzerne,	Ribs fractured; slipped and fell on loose coal.
20	9	William Kelly,	Timber man,	36	No. 1,	Drifton, do.	Leg fractured by a falling prop.
20	10	August Pierson,	Laborer,	22	Cranberry,	Cranberry, do.	Arm fractured by a fall of coal.
20	11	John Daddow,	Outside laborer,	28	Coleraine,	Coleraine, Carbon,	Thigh fractured by a fall of clay at stripping.
27	12	Edward McGeehan,	Miner,	40	No. 2,	Drifton, Luzerne,	Slightly burned by an explosion of gas.
27	13	Mike Nutt,	Outside laborer,	24	Yorktown,	Yorktown, Carbon,	Leg fractured; fell from clay bank.
28	14	John Wiegand,	Driver,	16	No. 1,	Oak Dale, Luzerne,	Arm fractured while riding up the slope.
28	15	Brian Carpenter,	Loader,	36	No. 4,	Jeanesville, do.	Seriously injured; fell between cars near breaker.
Feb. 1	16	Patrick Ward,	Timber man,	45	No. 5,	Eckley, do.	Severely injured by a falling prop.
3	17	Charles Kelly,	Miner,	35	Hollywood,	Hollywood, do.	Arm fractured; was struck by a piece of coal from a blast.
5	18	Charles Garrahan,	Miner,	..	No. 5,	Stockton, do.	Injured by a fall of coal.
8	19	Stewart Macfarlane,	Foreman,	40	No. 1,	Drifton, do.	These three men were severely injured by the explosion of a boiler.
8	20	Nicholas Dolat,	Fireman,	30	No. 1,	Drifton, do.	
8	21	John Leshgo,	Fireman,	29	No. 1,	Drifton, do.	
9	22	William Armbruster,	Slate-picker,	16	Nesquehoning,	Nesquehoning, Carbon,	Hand crushed by a cog-wheel in breaker.
9	23	Charles Gallagher,	Miner,	35	South Sugar Loaf,	Hazleton, do.	Head cut; was struck by a piece of coal at battery.
19	24	Hugh Ferry,	Miner,	36	No. 6,	Yorktown, do.	Severely injured by a fall of clod in his breast.
28	25	John J. Campbell,	Miner,	35	South Sugar Loaf,	Hazleton, Luzerne,	Severely cut about face and body; slid down breast.
28	26	David Evans,	Miner,	45	Beaver Brook,	Beaver Brook, do.	Severely injured by a fall of coal.
Mar. 1	27	John Josephs,	Laborer,	22	Humboldt,	Humboldt, do.	Leg fractured by a fall of coal.

TABLE No. 5—*Continued.*

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.		Nature and Cause of Accident.
Mar. 3	28	Patrick McHugh, . . .	Door-boy, ...	15	Pond Creek, ...	Pond Creek,	Luzerne,	Injured by a fall of clod while away from his work.
5	29	Andrew Humanick, . .	Laborer, ...	30	Gowen, ...	Gowen,	do.	Slightly burned by an explosion of gas.
9	30	Robert Jeffrey, ...	Laborer, ...	26	Pond Creek, ...	Pond Creek,	do.	Leg fractured by a fall of slate.
10	31	Mike Alaska, ...	Miner, ...	28	No. 9, ...	Tresckow,	Carbon,	Severely injured by a fall of clod.
11	32	Joseph Marouskey, . .	Outside laborer, .	30	No. 5, ...	Yorktown,	do.	Injured by a piece flying from a blast at stripping.
12	33	Thomas Griffith, . . .	Miner, ...	40	Cranberry, ...	Cranberry,	Luzerne,	Leg fractured by a fall of coal.
12	34	Condy Gallagher, . . .	Miner, ...	62	No. 6, ...	Yorktown,	Carbon,	Leg fractured by a fall of clod.
16	35	John P. Thomas, . . .	Miner, ...	35	No. 1, ...	Oak Dale,	Luzerne,	Severely injured; was struck by a car that jumped track.
27	36	Edward Jones, ...	Miner, ...	49	No. 5, ...	Lansford,	Carbon,	Leg fractured; a piece of slate slid against it.
30	37	John Kurntz, ...	Miner, ...	29	Pond Creek, ...	Pond Creek,	Luzerne,	Leg fractured; struck by a piece of coal.
31	38	Joseph Machuskey, . .	Laborer, ...	29	No. 4, ...	Jeanesville,	do.	Leg badly bruised; struck by a sliding column pipe.
April 7	39	Samuel Graham, . . .	Driver, ...	16	Hazleton Mine, ...	Hazleton,	do.	Arm cut; caught under car wheel.
14	40	John Hancock, ...	Laborer, ...	28	No. 2, ...	Eckley,	do.	Seriously injured; caught under a boiler.
15	41	John Gregor, ...	Laborer, ...	25	Beaver Brook, ...	Beaver Brook,	do.	Hand cut off by a piece of coal falling on it.
19	42	John Slovisnko, ...	Laborer, ...	26	No. 7, ...	Tresckow,	Carbon,	Leg fractured by a fall of coal.
19	43	William Jansen, ...	Miner, ...	30	Hazleton Mine, ...	Hazleton,	Luzerne,	Finger cut off by a piece of coal falling on it.
19	44	Francis Gibad, ...	Miner, ...	36	Cranberry, ...	Hazleton,	do.	Severely injured by a premature blast.
27	45	Stephen Northstein, . .	Laborer, ...	19	No. 9, ...	Lansford,	Carbon,	Leg fractured by a piece of rock from dump.
27	46	Thomas Fletcher, . . .	Laborer, ...	23	No. 2, ...	Stockton,	Luzerne,	Injured by a fall of coal.
May 4	47	John Hawk, ...	Helper, ...	18	Cranberry, ...	Hazleton,	do.	Legs injured; squeezed between locomotive and car.
4	48	Hugh Sweeny, ...	Driver, ...	17	Hazleton Mine, ...	Hazleton,	do.	Foot crushed by cars at top of slope.
4	49	Pearce Mike, ...	Laborer, ...	27	Hollywood, ...	Hollywood,	do.	Severely injured; fell down an embankment.
4	50	Thomas Cadden, . . .	Driver, ...	16	No. 3, ...	Nesquehoning,	Carbon,	Leg fractured; an empty car ran over it.
7	51	Dominic Brennan, . . .	Driver, ...	14	Hollywood, ...	Hollywood,	Luzerne,	Foot fractured; ran over by car on dirt bank.
7	52	Charles Gallagher, . .	Door-boy, ...	16	No. 1, ...	Oak Dale,	do.	Arm fractured; caught while spragging a wheel.
10	53	Robert Watson, ...	Miner, ...	47	No. 3, ...	Lattimer,	do.	Collar bone fractured by a fall of coal.
14	54	Michael Daggett, . . .	Miner, ...	50	No. 4, ...	Upper Lehigh,	do.	Severely injured by powder explosion.
27	55	Michael Lazutt, ...	Laborer, ...	28	No. 1, ...	Oak Dale,	do.	Severely injured by a fall of coal.
June 7	56	John McGinty, ...	Miner, ...	26	No. 1, ...	Oak Dale,	do.	Severely injured; he fell under mine cars.

June	10	57	Daniel Furey,	Miner,	46	No. 2,	Highland,	Luzerne,	Leg fractured; buggy road broke, and buggy fell on Furey.
	16	58	William Schalles,	Miner,	21	No. 1,	Highland,	do.	Arm fractured by a fall of coal.
	19	59	James McCabe,	Brakeman,	20	No. 3,	Nesquehoning,	Carbon,	Leg fractured; fell between cars.
	23	60	Simon Goodshow,	Laborer,	27	Hazleton Mine,	Hazleton,	Luzerne,	These two men were badly burned by an explosion of powder at stripping in some mysterious way.
	23	61	John Yercoe,	Laborer,	30	Hazleton Mine,	Hazleton,	do.	
July	6	62	Thomas F. Snyder,	Slate-picker,	13	Black Ridge,	Black Ridge,	do.	Severely injured; fell in breaker.
	7	63	Stephen Kolches,	Laborer,	30	No. 5,	Stockton,	do.	Injured by a fall of clay at stripping.
	8	64	William Hatkiu,	Inside foreman,	55	South Sugar Loaf,	Hazleton,	do.	Severely injured; was squeezed between cars.
	8	65	George Hebley,	Miner,	45	No. 6,	Milnesville,	do.	Severely cut on head by a piece of coal.
	13	66	James Tarleton,	Driver,	20	No. 5,	Lansford,	do.	Leg cut off by a car running over it.
	15	67	Frank Schlich,	Miner,	25	No. 3,	Stockton,	do.	Seriously injured; struck by a mine car on a run.
	17	68	Darby Curran,	Miner,	45	No. 6,	Lansford,	Carbon,	Leg fractured, causing amputation; caused by a fall of rock.
	20	69	Charles Thompson,	Miner,	25	No. 2,	Lattimer,	Luzerne,	Severely injured; fell under mine cars.
	22	70	William Higgins,	Miner,	48	No. 5,	Upper Lehigh,	do.	Slightly injured; fell under mine car.
	24	71	Theodore Katowasking.	Miner,	44	No. 4,	Mt. Pleasant,	do.	Slightly burned by an explosion of powder.
	27	72	Frank O'Donnel,	Laborer,	15	Derringer,	Derringer,	do.	Arm fractured; caught between cars.
Aug.	4	73	John Langston,	Miner,	31	No. 2,	Mt. Pleasant,	do.	Severely injured by a fall of coal from pillar.
	5	74	Daniel Shaffer,	Topman,	19	No. 3,	Lattimer,	do.	Seriously injured by mine cars.
	6	75	Joseph Rider,	Helper,	16	No. 2,	Lattimer,	do.	Seriously injured; caught between locomotive and car.
	17	76	Patrick Murrin,	Laborer,	20	No. 2,	Upper Lehigh,	do.	Leg fractured by fall of coal.
	26	77	Joseph Collar,	Miner,	25	No. 9,	Tresckow,	Carbon,	Leg fractured; fell under mine cars at stripping.
Sept.	1	78	George Leonard,	Laborer,	30	No. 4,	Upper Lehigh,	Luzerne,	Arm fractured while dumping buggy.
	3	79	James Ryan,	Driver,	21	No. 4,	Jeanesville,	do.	Injured by mine cars.
	14	80	John Connahan,	Driver,	16	East Crystal Ridge,	Hazleton,	do.	Arm fractured; caught under mine car.
	22	81	Andrew Cuslack,	Miner,	25	No. 9,	Tresckow,	Carbon,	Injured by a fall of slate at face of gangway.
	23	82	Douglas O'Donnel,	Miner,	40	No. 6,	Lansford,	do.	Slightly burned by an explosion of gas.
	27	83	Cazeton Reinchte,	Miner,	36	No. 2,	Highland,	Luzerne,	Severely injured by a fall of coal.
Oct.	2	84	Nicholas Watkin,	Laborer,	30	Cranberry,	Hazleton,	do.	Hand badly injured; a piece of rock fell on it.
	2	85	Edward McGlynn,	Miner,	40	Cranberry,	Hazleton,	do.	Hip dislocated; caused by a fall of coal.
	4	86	Christian Throne,	Pump-boy,	18	Laurel Hill,	Hazleton,	do.	Seriously injured; caught by the crank of the pump.
	4	87	Joseph Maliskey,	Laborer,	25	No. 7,	Upper Lehigh,	do.	Collar bone fractured while raising a stringer.
	7	88	John Uram,	Laborer,	26	No. 1,	Jeanesville,	do.	Arm fractured by a fall of coal.
	8	89	Frank Gibbs,	Miner,	34	Gowen,	Gowen,	do.	Leg fractured by a fall of coal.
	11	90	George Rodang,	Miner,	26	Tomhicken,	Tomhicken,	do.	While preparing a blast, a spark from Rodang's lamp fell into a keg of powder exploding it, burning both men severely.
	11	91	George Haunchick,	Miner,	28	Tomhicken,	Tomhicken,	do.	
	12	92	John Georic,	Driver,	18	Hollywood,	Hollywood,	do.	Severely injured; fell under mine car.
	20	93	Levi Farron,	Miner,	50	Beaver Meadow,	Beaver Meadow,	Carbon,	Collar bone fractured; slipped from a platform.
	22	94	Andrew Linkbach,	Laborer,	36	No. 2,	Eckley,	Luzerne,	Hand fractured; caught between rocks.

TABLE No. 5—*Continued.*

Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Oct. 26	95	John Sider,	Laborer,	25	No. 4,	Upper Lehigh, Luzerne,	Leg fractured by a slide of coal from pillar while robbing.
26	96	Joseph Jamison,	Laborer,	36	No. 4,	Upper Lehigh, do.	Collar bone fractured by a slide of coal from pillar while robbing.
26	97	Walter Moses,	Laborer,	18	No. 4,	Upper Lehigh, do.	Spine injured by a slide of coal from pillar while robbing.
26	98	John Johnson,	Miner,	29	No. 2,	Mt. Pleasant, do.	Badly injured by a premature blast.
28	99	John O'Donnel,	Driver,	17	No. 1,	Drifton, do.	Leg fractured; struck by a car.
Nov. 3	100	Nicholas Miller,	Footman,	21	No. 2,	Lattimer, do.	Thigh fractured by a runaway car.
6	101	E. B. Moroon,	Fan-boy,	15	Laurel Hill,	Hazleton, do.	Arm severely injured; caught in the fan gearing.
8	102	Joseph Laggar,	Driver,	16	Hazleton Mine,	Hazleton, do.	Hand injured; caught between spreader and prop.
8	103	Joseph Lickto,	Laborer,	27	Hazleton Mine,	Hazleton, do.	Seriously injured; caught between car and prop.
12	104	Joseph Rossar,	Miner,	40	No. 2,	Highland, do.	Ribs fractured and otherwise injured by a fall of coal.
24	105	John McGuire,	Miner,	23	No. 3,	Hazleton, do.	Leg fractured by a rush of coal at battery.
24	106	Cormick McCalligue,	Miner,	30	South Sugar Loaf,	Hazleton, do.	Injured by a fall of slate at face of breast.
25	107	Joseph Shrowberg,	Miner,	28	Hazleton Mine,	Hazleton, do.	Both persons severely injured by a fall coal. The place was working, but they did not heed the warning.
25	108	Henry Olan,	Miner,	32	Hazleton Mine,	Hazleton, do.	
25	109	Thomas McBride,	Miner,	43	Coleraine,	Beaver Meadow, Carbon,	Foot crushed by a fall of coal.
27	110	William Rowe,	Miner,	47	Coleraine.	Beaver Meadow, do.	Severely injured by a fall of coal.
27	111	Michael Wratroll,	Laborer,	22	Beaver Meadow,	Beaver Meadow, do.	Injured by a fall of coal at stripping.
29	112	John Carr,	Driver,	26	No. 2,	Drifton, Luzerne,	Toes injured; caught and drawn under car wheels.
30	113	Michael Sargent,	Laborer,	22	No. 2,	Drifton, do.	Leg cut and bruised by a piece of coal sliding against it.
Dec. 2	114	Edward Gallagher,	Miner,	37	Stockton,	Stockton, do.	Leg fractured by a piece of coal from blast.
2	115	Thomas O'Donnel,	Door-tender,	16	Hazle Brook,	Hazle Brook, do.	Big toe cut off by a car wheel, car jumping track.
3	116	George Sanders,	Miner,	24	Gowen,	Gowen, do.	Leg fractured by a fall of coal.
6	117	Edward Shuchart,	Footman,	16	No. 5,	Stockton, do.	Arm fractured; jammed between cars.
14	118	Frank Ausbach,	Driver,	18	Gowen,	Gowen, do.	Shoulder blade fractured; thrown and kicked by a mule.
14	119	Paul Koleser,	Laborer,	25	Black Ridge,	Black Ridge, do.	Foot severely bruised; squeezed between mine cars.

Dec.	18	120	Fred Schraeder, ...	Miner, ...	38	No. 2, Oak Dale, ...	Jeddo,	Luzerne,	Severely injured by a fall of coal.
	18	121	William Goldsworthy,	Brakeman, ...	16	Cranberry, ...	Hazleton,	do.	Fell in front of locomotive and was seriously injured.
	19	122	John Dorsconsko, . . .	Laborer, ...	27	Yorktown, No. 5, ...	Yorktown.	Carbon,	Injured by mine cars.
	22	123	Edward Franko, ...	Laborer, ...	22	Tresckow, ...	Tresckow,	do.	Injured by fall of clay at strippings.
	29	124	John Conyngham, . . .	Laborer, ...	21	Cranberry, ...	Cranberry,	Luzerne,	Injured by cars at strippings.

NATIONALITY BY BIRTH OF PERSONS AS PER TABLE NO. 5.

Hungarians,	32
Irish,	29
Americans,	27
Germans,	9
Polanders,	7
English,	7
Welsh,	5
Austrians,	3
Italians,	3
French,	1
Scotch,	1
	124

Fifth Anthracite Coal District.

Synopsis of the report of Inspector William Stein for the year ending December 31, 1886. Compiled by the Bureau:

Number of mines in district, as located,	46
Number of mines operated from which statistics were gathered,	44
Average working time, in days, for forty-four mines,	191
Persons employed inside of mines,	8,640
Persons employed outside of mines,	6,554
Total number of persons employed,	15,194
Number of fatal accidents,	41
Number of non-fatal accidents,	101
Persons employed per fatal accident,	395
Persons employed per non-fatal accident,	152
Number of tons of coal mined,	4,972,502
Number of tons of coal shipped,	4,570,146
Number of tons increased production over year 1885,	459,702
Number of tons of coal mined per fatal accident,	121,280
Number of tons of coal mined per non-fatal accident,	49,233
Number of kegs of powder used in mines,	124,368
Number of steam boilers in use,	899
Number of horses and mules in service,	1,343

There were 222 persons killed and 654 persons injured during the five years ending December 31, 1886. There were 12 less in the list of killed and 4 less in the list of wounded, as compared with 1885. Certificates of service were issued to 102 mine bosses and certificates of qualification to 60 mine bosses.

FIFTH ANTHRACITE DISTRICT.

Office of Inspector of Mines,
Girardville, Pa., *March 9, 1887.*

Honorable J. Simpson Africa, *Secretary of Internal Affairs:*

Sir: In compliance with the provisions of an act of the General Assembly of this Commonwealth, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved June 30, A. D. 1885, I have the honor of herewith presenting to you my second annual report of the Fifth Inspection District of Schuylkill.

My report consists of the usual tables, together with the uniform tables adopted throughout the Anthracite and Bituminous Inspection Districts, and such other matter as may be of interest to those concerned.

It gives me great pleasure to be able to report a decrease in the number of fatal accidents. In 1885, we had fifty-three (53), and in 1886 we had forty-one (41). I have carefully examined into the cause of each fatal accident for the year 1886, and from my investigations find that nineteen (19) of the forty-one (41) were caused by carelessness and unskilled labor. A list of these is found in table No. 4.

I refer the reader to deaths resulting from falls of coal in gangways, headings, breasts, crushed between mine cars, burned with powder, and smothered in pea coal chute. I herewith give the dates of fatal accidents caused by carelessness, January 20th and 28th, May 4th and 28th, June 2d and 12th, July 1st, August 7th and 10th, October 14th, and November 2d, 3d and 22d. Dates of accidents caused by unskilled labor resulting in death, February 20th, April 20th and 21st, August 23d, and November 23d.

The new mine law has been effectual in almost making deaths resulting from the explosion of fire-damp very slight, yet we are sorry to say that deaths resulting from a careless handling of blasting material are taking their place, and unless the workmen will be more careful when making cartridges we cannot expect any improvement.

William Stein,
Mine Inspector.

GENERAL CONDITION OF THE COLLIERIES.

The general condition of the collieries has been greatly improved in 1886. A great many valuable improvements have been made, which no doubt were brought about to comply with the requirements of the new mine law. A very marked improvement is a better distribution of the air, which, in my opinion, is one of the most important features in the economy of mining coal, and, to every intelligent, practical miner, ought to need no coercion on the part of the mine inspector for its enforcement, as it benefits all concerned.

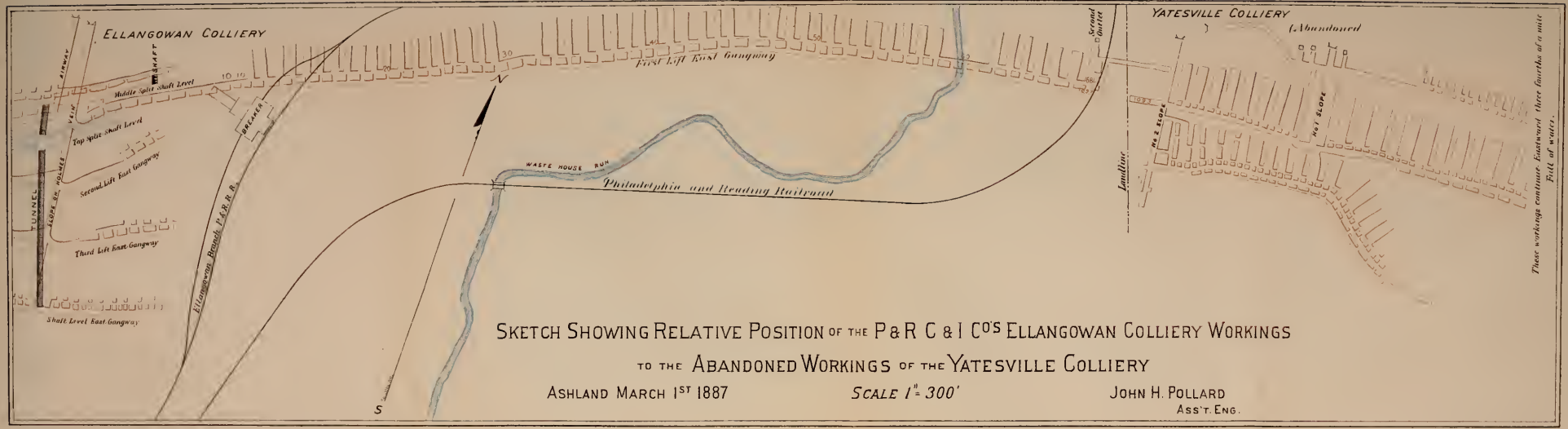
Additional outlets have also been made at some of the collieries, and also the erection of new fans, and where new tunnels have been driven in some collieries, a separate tunnel has been driven for a return airway, which does away with the "brattice" boards generally used to make the tunnel an intake and outlet for the air, as well as an outlet for transporting the coal to the bottom of shaft or slope.

These separate air-return tunnels have been driven at considerable cost, but will pay the companies in that there is less risk to life and property from their construction compared with the method of splitting the tunnels with boards, and more especially in collieries where gas is given off in large quantities.

The collieries I refer to where these tunnels have been driven are the Philadelphia and Reading Coal and Iron Company, Gilberton colliery, under the supervision of Mr. Veith, and the Lehigh Valley Coal Company's No. 5 shaft, under the supervision of Colonel D. P. Brown.

Accompanying my report is a sketch showing the relative position of the Philadelphia and Reading Coal and Iron Company's Ellangowan colliery workings to the abandoned workings of the Yatesville colliery. The Yatesville slope, as shown on sketch, is sunk about five hundred and twenty-five feet (525) deep on the Holmes vein, the mouth of which is about one hundred and fifty feet (150) to east of land line. This colliery was abandoned and of course filled with water. The first lift east gangway of the Ellangowan slope, sunk also on the Holmes vein, in course of driving eastward it was nearing the abandoned workings of Yatesville colliery, and in order to prevent any accident occurring from the bursting through of the water, the Ellangowan gangway was stopped at a point seventy-five feet (75) west of the land line. Breasts sixty-eight (68) and sixty-nine (69) were then driven up at right angles to gangway and connected with headings. About one hundred and twelve feet (112) up from gangway an opening was driven parallel to gangway through on the Yatesville slope. While this opening was in course of construction three bore holes were kept twenty feet in advance of the coal face, also a shaft or second outlet was sunk at the face of sixty-eight breast to reinforce safety, so that the men working there might have a ready way of escape in case of any unforeseen danger. It will be seen that extra precaution was taken

William Stein Inspector District No. 5.



SKETCH SHOWING RELATIVE POSITION OF THE P & R C & I CO'S ELLANGOWAN COLLIERY WORKINGS

TO THE ABANDONED WORKINGS OF THE YATESVILLE COLLIERY

ASHLAND MARCH 1ST 1887 SCALE 1" = 300' JOHN H. POLLARD

ASS'T. ENG.

to tap this water in order to prevent loss of life. When the water was tapped the bore holes were in advance of the coal face nineteen feet. So careful and vigilant were the company's officials that the work was all done in daytime, so that the inside foreman, Mr. Broughall, might have the absolute management of the operations personally.

I also send sketch showing relative position of the Philadelphia and Reading Coal and Iron Company's North Mahanoy colliery's north seven-foot slope workings, to abandoned workings of West Lehigh colliery in Skidmore vein. From the third lift, south gangway, of the north seven-foot slope, a tunnel is driven to Skidmore vein. The north gangway from this tunnel, as shown in sketch, is driven under the abandoned workings of the West Lehigh colliery. The workings in connection with the West Lehigh were full of water. The officials of the coal and iron company were aware of this fact, and were determined the water should be tapped in number six breast, and only those engaged for this purpose should be allowed in this district of the colliery.

This was successfully done by keeping bore holes ahead of the coal face as at Ellangowan colliery. I am glad to say that such measures, after mature deliberation, are always taken to surmount contending difficulties without loss of life, which is no less creditable to those in charge of the surveys and practical details in connection with colliery workings than gratifying to me, and cannot but be appreciated by all having a special interest in mining.

Report of Service Issued to—

Thomas D. Reese,
George P. Davis,
David Reese,
Patrick T. McLaughlin,
James Heaton,
James Irvin,
James Robbins,
David Morris,
Charles Esgar,
James Whalen,
Jacob J. Watkins,
Ralph B. Platt,
George Kilgour,
John W. Howells,
Thomas Lewis,
John Kline,
William Burchill,
Thomas Giles,
John Skeatle,
Charles Jasper,
James McCabe,
William H. Richards,
James Goldsworthy,
Gotleib Skeath,
William Palmer,
Caleb Williams,
William Davidson,
David Beynon,
Thomas J. Edwards,
Edward Pierce,
Edward T. Morgan,
John Webb,
David Morgan.
William Waters,
Benjamin C. Church,
Frederick Carl,
William McMutrie,
Morgan Davis.

William Broughall,
David R. Reese,
John J. Bradigan,
Robert Manchline,
John Brown,
Austin Edward,
Richard Palmer,
Matthew Kemp,
Thomas Baird,
William Marland,
John L. Williams,
Robert W. Roberts,
Joseph Reese,
George Scott,
William E. Jones,
Elijah Gregory,
Thomas B. Reese,
Stephen S. Jones,
John A. Wild,
William Edwards,
Joseph H. Denning,
William R. James.

Report of Qualification Issued to—

Edward M. Coyle,
Thomas McKeone,
John Hanson,
Joseph W. Watkins,
Reese Tasker,
William Hardy,
William Mitchell,
John K. Berkheiser,
William W. Lewis,
Lewis Evans,
John H. Reese,
William Brown,
Evan E. Davis,
William Leckie,
William R. Reese,
David J. Evans,
Robert Peel,
John W. Morgan.

TABLE No. 1.—Showing comparative statement of fatal casualties for the years 1885 and 1886.

	YEARS.	
	1885.	1886.
Explosions of fire-damp,	4	1
Suffocated with gas.		
Explosions of blasting materials,	6	3
Premature explosions,		2
By coal flying from shots.		
Falls of coal and roof,	25	24
Crushed by mine cars,	4	7
By machinery, underground.		
By machinery, on surface,	1	
Breaking of ropes and chains.		
Falling down shafts and slopes,	3	1
Explosions of boilers,	2	1
Miscellaneous,	8	6
Totals,	53	41

Number of fatal accidents and amount of coal produced per life lost.

	Number of fatal accidents.	Tons of coal produced per fatal accident
Philadelphia and Reading Coal and Iron Company,	25	106,437
Lehigh Valley Coal Company,	5	97,260
Lehigh and Wilkes-Barre Coal Company,	3	95,269
Lentz, Lilly & Company,	1	174,533 1/10
Individual firms,	7	138,259 8/10

TABLE No. 2.—Showing comparative statement of non-fatal casualties for the years 1885 and 1886.

	YEARS.	
	1885.	1886.
Explosions of fire-damp,	9	3
Explosions of blasting materials,		6
Premature explosions,	2	4
By coal flying from shots,	4	1
Falls of coal and roof,	29	30
Crushed by mine cars,	17	25
By machinery, underground,	1	
By machinery, on surface,	3	3
Breaking of ropes and chains,	1	
Falling down shafts and slopes,	2	1
Explosions of boilers,	2	
Miscellaneous,	35	28
Totals,	105	101

TABLE No. 3.—Showing the amount of coal produced and shipped during the years 1885 and 1886, respectively.

	Years.	
	1885.	1886.
Amount of coal produced,	4,512,800.07	4,972,502.07
Amount of coal shipped,	4,246,849.08	4,570,146.18

TABLE No. 4.—Comparative table between the years 1885 and 1886.

	Years.	
	1885.	1886.
Number of persons employed,	15,151	15,191
Tons of coal produced per life lost,	90,217 3/10	121,280
Ratio of employés, per life lost,	285 8/10	395
Number of tons mined per each personal injury,	30,262 7/10	49,232
Average number of tons mined per employé,	315 5/10	321
Ratio of employés per each personal injury,	95 9/10	152

TABLE No, 5.—Taking the death rate per thousand as a basis of comparison between the different companies and individual operators, we have the following ratio for the year 1886:

	Number of employés.	Number of deaths.	Death rate per thousand.
Philadelphia and Reading Coal and Iron Company.	8,925	25	2.80
Lehigh Valley Coal Company,	1,571	5	3.17
Lehigh and Wilkes-Barre Coal Company,	852	3	3.64
Lentz, Lilly & Company,	855	1	1.16
Individual firms,	2,988	7	2.34
Totals,	15,191	41	2.66

TABLE No. 6.—Comparative statement of fatal and non-fatal casualties and their causes for five years.

FATAL CASUALTIES.	YEARS.					Totals for five years.	Aggregate.
	1882.	1883.	1884.	1885.	1886.		
Explosions of fire-damp,	6	6	2	4	1	19	
Suffocated by gas,	1						
Explosions of blasting material,		2	6	5	3	16	
Premature explosions,	1	6			2	9	
By coal flying from shots,	1			1		2	
Falls of coal and roof,	14	14	20	25	21	94	
Crushed by mine cars,	7	8	8	4	6	33	
By machinery under ground,							
By machinery on surface,	2	4	1	1		8	
Breaking of ropes and chains,							
Falling down shafts and slopes,	3		4	3	1	11	
Explosions of boilers,		3		2	1	6	
Miscellaneous,	5	3	2	8	6	24	222
Totals of the respective years,	40	46	43	53	41		222
Non-fatal casualties.							
Explosions of fire-damp,	18	22	26	9	3	78	
Suffocated by gas,	2			2		4	
Explosions of blasting material,	2	5		7	6	20	
Premature explosions,	1	5	11	2	4	23	
By coal flying from shots,	3	5		4	1	13	
Falls of coal and roof,	57	42	47	29	30	205	
Crushed by mine cars,	38	26	23	17	25	129	
By machinery under ground,				1		1	
By machinery on surface,	6	3	3	3	3	18	
Breaking of ropes and chains,				1		1	
Falling down shafts and slopes,	2		7	2	1	12	
Explosions of boilers,			1	2		3	
Miscellaneous,	38	26	20	35	28	147	654
	167	134	138	105	101		654

TABLE No. 7.—Comparative statement of casualties, tonnage, and employés for five years in the Fifth Anthracite District.

	Killed.	Injured.	Total.	Total number of employés.	Number of employés to each casualty.	Number of tons of coal mined to each fatal casualty.	Total number of tons of coal mined.	Number of tons of coal mined to each non-fatal casualty.	Ratio of tons of coal to each casualty.	Number of tons of coal mined to each employé.
1882,	40	167	208	12,361	59.75	116,525.02	4,661,024.12	27,910.01	22,517.00	377.09
1883,	46	134	180	13,999	74.	103,202.00	4,854,724.19	36,229.00	26,821.10	366.10
1884,	43	138	181	14,884	82.30	104,948.18	4,512,800.07	32,701.09	24,987.06	303.04
1885,	53	105	158	15,151	95.90	90,217.30	4,781,517.14	45,538.20	30,262.70	315.59
1886,	41	101	142	15,191	106.97	121,280.10	4,972,502.07	49,232.60	35,017.00	320.66
Totals,	223	645	869	71,586	418.92	536,265.00	23,782,569.19	191,610.16	139,609.86	1,682.48
Average,	44 3/5	129	173 4/5	14,317 1/5	83.78	107,253.00	4,756,513.83	38,322.03	27,921.97	336.49

TABLE No. 1—Showing Location of Collieries in the Fifth Mine District.

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Boston Run,	Philadelphia and Reading Coal and Iron Co.,	St. Nicholas, Schuylkill county,	John Veith,	Pottsville.
Bear Run,	Do. do.	Do. do.	Do.	Do.
Buck Mountain,	Buck Mountain Coal Co.,	Mahanoy City, do.	Philip Conrad,	Buck Mountain.
Connor,	Philadelphia and Reading Coal and Iron Co.,	Girardville, do.	John Veith,	Pottsville.
Cambridge,	Cambridge Coal Co.,	Shenandoah, do.	William R. James,	Shenandoah.
Draper,	Oliver Disston.	Gilberton, do.	B. F. Williams,	Gilberton.
Ellangowan,	Philadelphia and Reading Coal and Iron Co.,	Maple Dale, do.	John Veith,	Pottsville.
Elmwood,	Do. do.	Mahanoy City, do.	Do.	Do.
East Bear Ridge,	Do. do.	Mahanoy Plane, do.	Do.	Do.
Girard,	Do do.	Girardville, do.	Do.	Do.
Girard Mammoth,	Do. do.	Raven Run, do.	Do.	Do.
Gilberton,	Do. do.	Gilberton, do.	Do	Do.
Glendon,	J. C. Haydon & Co.,	Mahanoy City, do.	William P. Daniels,	Mahanoy City.
Hammond,	Philadelphia and Reading Coal and Iron Co.,	Girardville, do.	John Veith,	Pottsville.
Honey Brook No. 1,	Lehigh and Wilkes-Barre Coal Co.,	Audenreid, do.	J. I. Hollenbeck,	Audenreid.
Honey Brook No. 4,	Do. do.	Do. do.	Do.	Do.
Honey Brook No. 5,	Do. do.	Do. do.	Do.	Do.
Indian Ridge,	Philadelphia and Reading Coal and Iron Co.,	Shenandoah, do.	John Veith,	Pottsville.
Knickerbocker,	Do. do.	Yatesville, do.	Do.	Do.
Kohinoor,	Do. do.	Shenandoah, do.	Do.	Do.
Kehley's Run,	Thomas Coal Company,	Do. do.	Thomas Baird,	Shenandoah.
Lawrence,	Lawrence & Brown,	Mahanoy Plane, do.	George L. Brown,	Mahanoy Plane.
Locust Mountain,	W. J. Lloyd,	Shenandoah, do.	William J. Lloyd,	Shenandoah.
Mahanoy City,	Philadelphia and Reading Coal and Iron Co.,	Mahanoy City, do.	John Veith,	Pottsville.
North Mahanoy,	Do. do.	Do. do.	Do.	Do.
North Laurel Ridge,	S. H. Barratt,	Gilberton, do.	Matthew Kemp,	Mahanoy City.
Packer No. 1,	Lehigh Valley Coal Company,	Colorado, do.	Colonel D. P. Brown,	Lost Creek.
Packer No. 2,	Do. do.	Lost Creek, do.	Do. do.	Do.
Packer No. 3,	Do. do.	Brownsville, do.	Do. do.	Do.
Packer No. 4,	Do. do.	Lost Creek, do.	Do. do.	Do.
Packer No. 5,	Do. do.	Rappahannock, do.	Do. do.	Do.
Park No. 1,	Lentz, Lilly & Co.,	Park Place, do.	Edward Reese,	Centralia, Columbia county.
Park No. 2,	Do.	Do. do.	Do.	Do. do.
Primrose,	Nevills & Co.,	Mahanoy City, do.	James Wynn,	Mahanoy City, Schuylkill Co.
St. Nicholas,	Philadelphia and Reading Coal and Iron Co.,	St. Nicholas, do.	John Veith,	Pottsville.
Schuylkill,	Do. do.	Mahanoy City, do.	Do.	Do.
Suffolk,	Do. do.	St. Nicholas, do.	Do.	Do.
Shenandoah City,	Do. do.	Shenandoah, do.	Do.	Do.
Stanton,	Do. do.	Maizeville, do.	Do.	Do.
South Laurel Ridge,	S. H. Barratt,	Gilberton, do.	Matthew Kemp,	Mahanoy City.
Silver Brook,	Silver Brook Coal Company,	Audenried, do.	William J. Harris,	Hazleton.
Turkey Run,	Philadelphia and Reading Coal and Iron Co.,	Shenandoah, do.	John Veith,	Pottsville.
Tunnel Ridge,	Do. do.	Mahanoy City, do.	Do.	Do.
West Shenandoah,	Do. do.	Shenandoah, do.	Do	Do.
West Bear Ridge,	Do. do.	Mahanoy Plane, do.	Do.	Do.
William Penn,	William Penn Coal Company,	Shaft P. O., do.	William H. Lewis,	Shaft P. O.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Fifth Mine District, for the year ending December 31, 1886.

NAMES OF COLLIERIES.	Location. All in Schuylkill county.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules
Boston Run,	St. Nicholas,	104,237.05	96,287.05	235.2	307	. .	2	2,550	16	26
Bear Run,	St. Nicholas,	138,113.13	132,113.13	233	418	2	3	4,100	20	33
Buck Mountain,	Mahanoy City,	90,944.17	90,295.17	189	300	. .	. .	3,198	20	21
Connor,	Girardville,	70,491.08	68,491.08	213.5	169	. .	1	1,800	8	37
Cambridge,	Shenandoah,	6,953.00	6,753.60	200	19	. .	. .	168	2	3
Draper,	Gilberton,	128,606.04	115,606.04	202	869	. .	. .	3,000	32	32
Ellangowan,	Maple Dale,	405,603.10	384,603.10	247.3	833	4	8	8,150	32	81
Elmwood,	Mahanoy City,	140,660.17	128,660.17	256	292	. .	4	2,925	16	24
East Bear Ridge,	Mahanoy Plane,	. . . . .	. . . . .	. . . .	2	. .	. .	. . . . .	11	3
Girard,	Girardville,	12,148.17	10,148.17	40¾	95	. .	1	25	16	9
Girard Mammoth,	Raven Run,	75,281.08	75,433.11	218.2	256	1	. . .	2,750	20	35
Gilberton,	Gilberton,	108,708.14	70,281.08	202	368	. .	4	2,650	26	33
Glendon,	Mahanoy City,	109,762.14	100,708.14	189.4	390	1	4	4,135	24	33
Hammond,	Girardville,	132,172.19	124,172.19	215¾	379	1	2	3,950	16	44
Honey Brook No. 4,	Audenreid,	150,315.10	134,315.10	237.5	316	1	5	3,879	23	38
Honey Brook No. 5,	Audenreid,	135,492.06	122,492.06	232	506	2	1	2,508	61	41
Indian Ridge,	Shenandoah,	212,523.01	198,523.00	206.2	737	3	. . .	6,800	36	70
Knickerbocker,	Yatesville,	240,213.11	228,213.11	219.2	810	2	5	7,260	20	50
Kohinoor,	Shenandoah,	182,169.16	170,169.16	211.5	651	3	4	4,930	26	59
Kehley's Run,	Shenandoah,	119,[illegible]00.00	116,418.14	241	297	. .	6	3,875	14	29
Lawrence,	Mahanoy Plane,	125,378.16	105,668.16	264	341	1	1	585	36	30
Mahanoy City,	Mahanoy City,	145,006.10	129,006.10	235¼	595	. .	3	2,575	22	44
North Mahanoy,	Mahanoy City,	161,821.11	146,821.11	253.2	431	2	2	5,150	12	31
North Laurel Ridge,	Gilberton,	31,039.08	30,689.08	263	76	. .	. . .	400	5	6
Packer No. 2,	Lost Creek,	2,906.00	. . . . .	. . . .	51	. .	. . .	. . . . .	22	8
Packer No. 3,	Brownsville,	182,613.01	170,390.14	233.2	491	3	2	3,608	24	34
Packer No. 4,	Lost Creek,	227,726.01	212,071.04	217.3	541	1	4	4,951	30	37

Packer No. 5,	Rappahannock,	73,056.04	63,111.14	191.5	485	1	4	2,539	26	25
Park No. 1,	Park Place,	2,740.04	2,404.14	113/4	291	..	2	103	26	40
Park No. 2,	Park Place,	171,792.17	151,316.07	176	564	1	8	4,439	35	62
Primrose,	Mahanoy City,	80,079.02	71,079.02	219.4	193	1	1	2,020	14	18
St. Nicholas,	St. Nicholas,	.....	.....	...	8	..	...	.....	16	3
Suffolk,	St. Nicholas,	161,869.09	150,869.09	239¾	519	3	6	4,650	15	35
Shenandoah City,	Shenandoah,	261,885.13	241,885.13	242¾	597	..	4	7,159	12	61
Stanton,	Maizeville,	75,809.05	67,809.05	237¼	225	..	...	605	24	32
South Laurel Ridge,	Gilberton,	11,805.01	11,655.01	124¾	76	..	1	100	10	7
Schuylkill,	Mahanoy City,	121,916.06	116,916.06	226.2	325	1	4	4,325	16	10
Silver Brook,	Audenried,	8,500.00	5,500.00	39	197	2	...	.....	16	25
Turkey Run,	Shenandoah,	162,006.19	150,006.19	247¾	506	3	2	4,900	11	47
Tunnel Ridge,	Mahanoy City,	.....	.....	....	10	..	...	.....	24	6
West Shenandoah,	Shenandoah,	142,262.04	131,262.04	242¼	425		5	3,825	22	40
West Bear Ridge,	Mahanoy Plane,	.....	.....	...	26					
William Penn,	Shaft P. O.,	255,000.00	235,000.00	253	730	2	1	4,000	42	50
Mahanoy Jig House,	Mahanoy City,	.....	.....	256	131	..	1			
Total,		4,972,502.07	4,570,146.18	8,411.6	15,194	41	101	124,368	899	1,313

TABLE No. 3—Showing the number of each class of employés at each colliery in the Fifth Mine District, during the year 1886.

NAMES OF COLLIERIES.	Location—All in Schuylkill county.	NUMBER OF PERSONS EMPLOYED INSIDE.							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate-pickers.	All company men.	Superintendent, bookkeepers and clerks	Total outside.	
Boston Run,	St. Nicholas,	1	96	19	43	5	5	169	1	3	10	60	63	1	138	307
Bear Run,	St. Nicholas,	1	130	53	52	19	4	259	1	4	10	95	48	1	159	418
Buck Mountain,	Mahanoy City,	1	98	54	18	8	7	186	1	3	7	66	35	2	114	300
Connor,	Girardville,	1	34	6	13	17	3	74	1	4	5	48	36	1	95	169
Cambridge,	Shenandoah,	1	8	3	. . .	1		13	1	. . .	. . .	3	2	. . .	6	19
Draper,	Gilberton,	1	105	20	86	11	10	233	1	6	13	70	44	2	136	367
Ellangowan,	Maple Dale,	2	321	47	77	28	11	489	2	9	13	194	125	1	314	833
Elmwood,	Mahanoy City,	1	98	17	33	8	9	166	1	4	10	76	34	1	126	292
East Bear Ridge,	Mahanoy Plane,	. . .	. . .	. . .	2	. . .	. . .	2	. . .	. . .	. . .	. . .	. . .	. . .	. . .	2
Girard,	Girardville,	1	2	15	17	. . .		35	1	4	11	15	28	1	60	95
Girard Mammoth,	Raven Run,	2	61	18	21	17	2	121	1	6	8	58	42	1	116	236
Gilberton,	Gilberton,	1	65	49	97	9	5	226	1	4	19	70	47	1	142	368
Glendon,	Mahanoy City,	3	140	35	62	15	13	268	3	5	10	67	35	2	122	390
Hammond,	Girardville,	1	101	39	48	13	10	215	1	5	12	83	62	1	164	379
Honey Brook No. 4,	Audenried,	1	68	54	57	26	10	216	1	6	7	83	33	. . .	130	346
Honey Brook No. 5,	Audenried,	3	54	42	115	36	9	259	1	7	23	96	117	3	247	506
Indian Ridge,	Shenandoah,	2	196	56	83	63	11	411	2	7	27	201	88	1	326	737
Knickerbocker,	Yatesville,	3	270	78	49	13	7	420	1	9	19	263	97	1	390	810
Kohinoor,	Shenandoah,	2	196	138	29	32	3	400	1	9	22	151	67	1	251	651
Kehley's Run,	Shenandoah,	1	88	16	27	13	9	154	1	7	7	80	46	2	143	297
Lawrence,	Mahanoy Plane,	1	50	43	58	11	10	173	1	8	26	83	48	2	168	341
Mahanoy City,	Mahanoy City,	1	53	40	125	32	13	264	1	4	14	66	45	1	131	395
North Mahanoy,	Mahanoy City,	2	173	39	21	19	8	265	1	4	11	114	35	1	166	431
North Laurel Ridge,	Gilberton,	1	18	5	7	3	1	235	1	1	3	18	16	2	41	76
Packer No. 2,	Lost Creek,	1	5	6	10	2	. . .	24	1	4	6	. . .	16	. . .	27	51
Packer No. 3,	Brownsville,	1	121	93	31	51	9	309	1	13	14	77	79	1	185	494
Packer No. 4,	Lost Creek,	1	169	25	35	72	6	308	1	21	15	110	85	1	233	541
Packer No. 5,	Rappahannock,	2	114	71	59	24	6	276	1	20	12	108	67	1	209	485
Park No. 1,	Park Place,	1	60	12	29	16	24	142	1	10	12	98	25	3	149	291
Park No. 2,	Park Place,	2	207	32	41	35	30	317	1	12	16	105	80	3	217	564
Primrose,	Mahanoy City,	1	59	27	4	13	3	107	3	6	4	56	15	2	86	193
St. Nicholas,	St. Nicholas,	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	3	. . .	5	. . .	8	8

Suffolk,	St. Nicholas,	1	240	75	70	15	6	407	1	5	10	80	45	1	142	549
Shenandoah City,	Shenandoah,	2	168	69	42	31	16	323	1	6	16	177	73	1	274	597
Stanton,	Maizeville,	1	22	18	47	17	3	108	1	4	15	54	42	1	117	225
South Laurel Ridge,	Gilberton,	1	12	8	6	3	2	82	1	1	5	14	23	. .	44	76
Schuylkill,	Mahanoy City,	1	79	67	15	23	6	191	1	4	9	89	30	1	134	325
Silverbrook,	Audenried,	1	13	. .	81	2	. .	97	2	5	8	20	65	1	101	197
Turkey Run,	Shenandoah,	1	148	59	66	14	7	295	1	5	11	142	51	1	211	506
Tunnel Ridge,	Mahanoy City,	.	. .	. .	. .	. .	. .	. .	. .	. .	6	. .	4	. .	10	10
West Shenandoah,	Shenandoah,	1	118	41	34	19	7	215	1	4	15	124	66	1	211	425
West Bear Ridge,	Mahanoy Plane,	1	. . .	. . .	4	1	. . .	6	. .	1	11	. . .	8	. .	20	26
William Penn,	Shaft P. O.,	3	267	40	50	40	. . .	400	1	12	12	263	86	6	330	730
Mahanoy Jig House,	Mahanoy City,	.	. . .	. . .	. . .	. . .	. . .	. . .	. .	7	. . .	80	44	. .	131	131
Total,		56	4,223	1,529	1,770	777	285	8,610	46	259	487	3,657	2,052	53	6,554	15,191

TABLE No. 4—List of fatal accidents occurring in and about the mines of the Fifth Mine District, for the year ending December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Widow	Number of orphans.	Name of Colliery.	Location—Schuylkill County.	Nature and Cause of Accident.
Jan. 20	Jacob Brensbite,	Miner,	30	1	4	Ellangowan,	Maple Dale,	Killed by side slip of coal in gangway.
20	Nicholas Kennte,	Laborer,	24	..	2	Ellangowan,	Maple Dale,	Killed at same time as Brensbite.
28	Anthony Rice,	Miner,	23	..	..	Packer No. 1,	Colorado,	Fatally injured by a fall of coal; died 31st Jan.
Feb. 20	Martin Shippaw,	Slate picker,	20	..	..	Bear Run,	St. Nicholas,	Smothered in pea coal chute.
Mar. 31	Michael Joyce,	Miner,	24	..	..	Girard Mammoth,	Raven Run,	Killed by fall of coal.
April 19	John Nolan,	Miner,	38	..	..	Hammond,	Girardville,	Killed by side slip of coal in breast.
20	John Keesick,	Miner,	28	..	..	Glendon,	Mahanoy City,	Killed by fall of top slate in breast.
21	John Weideralufsky	Miner,	28	..	..	Bear Run,	St. Nicholas,	Killed by fall of top coal in heading.
May 4	Joseph Pisco,	Miner,	21	1	..	Ellangowan,	Maple Dale,	Killed by a blast, went back too soon to shot.
7	James Ward,	Miner,	30	..	..	Packer No. 4,	Lost Creek,	Killed by fall of top slate.
7	William Kenting,	Miner,	52	..	..	Ellangowan,	Maple Dale,	Fatally injured by fall of coal; died in hospital 10th May.
26	Andrew Delauch,	Laborer,	23	..	..	Honey Brook No. 5,	Audenried,	Killed between two cars at bottom of breaker-plane.
27	Jacob Webb,	Slate picker,	12	..	..	Primrose,	Mahanoy City,	Killed by boiler explosion.
28	John Sticher,	Miner,	40	1	5	North Mahanoy,	Mahanoy City,	Fatally burned with powder; died 28th June.
28	Patrick McDonald,	Miner,	35	1	10	Honey Brook No. 4,	Audenried,	Fatally injured by fall of coal; died on the 29th.
June 2	Jacob Kline,	Miner,	57	1	2	North Mahanoy,	Mahanoy City,	Killed by fall of top coal.
12	Patrick Brennan,	Miner,	30	..	..	Suffolk,	St. Nicholas,	Fatally injured by fall of coal; died in hospital 22nd July.
July 1	John Bivan,	Miner,	12	1	4	Turkey Run,	Shenandoah,	Killed by fall of the cover of Mammoth vein.
1	Thomas Hennesy,	Miner,	56	..	7	Turkey Run,	Shenandoah,	Fatally burned with powder; died 10th July.
16	James Sheetz,	Miner,	25	..	..	Packer No. 3,	Brownsville,	Killed by a fall of top coal.
Aug. 7	Charles Smith,	Loader,	28	1	1	Packer No. 3,	Brownsville,	Killed; run over by car at bottom of slope.
9	Joel Ledden,	Teamster,	18	..	..	William Penn,	Shaft P. O.,	Killed; thrown from wagon; horses ran off.
10	Peter Renovitch,	Laborer,	27	1	..	Suffolk,	St. Nicholas,	Killed by fall of top slate.
23	John Bulko,	Miner,	28		..	Park No. 2 Slope,	Park Place,	Killed by a blast.
Sept. 7	William Chissler,	Miner,	45	1	3	Indian Ridge,	Shenandoah,	Killed by falling down shaft.
7	Thomas Coombs,	Miner,	47	1	4	Suffolk,	St. Nicholas,	Fatally injured by fall of coal; died in hospital 4th October.
14	Mark Barry,	Driver,	20	..	..	Kohinoor,	Shenandoah,	Skull fractured; kicked by a mule; died on the 15th.
Oct. 14	John T. Glover,	Door boy,	15	..	..	Kohinoor,	Shenandoah,	Killed between car and side of gangway.
18	Henry Becker,	Miner,	58	1	4	Kohinoor,	Shenandoah,	Fatally injured by fall of coal; died in hospital on the 22d.
25	John McManus,	Miner,	45	1	5	Indian Ridge,	Shenandoah,	Killed by fall of top coal.

Nov.	2	David Lewis, ...	Repairman, .	38	. .	3	William Penn, ...	Shaft P. O., ...	Killed between car and slop collar.
	3	Jacob Shrader, . .	Laborer, . . .	22	. .	. .	Knickerbocker, ...	Yatesville, ...	Killed by fall of top coal in gangway.
	6	Robert Evans, . . .	Miner, ...	40	1	. .	Silver Brook, ...	Audenried, ...	Leg broken; died in Drifton hospital.
	9	Charles Murray, .	Miner, ...	28	1	2	Knickerbocker, ...	Yatesville, ...	Killed by fall of coal.
	22	Michael Mehall, . .	Miner, ...	24	. .	. .	Turkey Run, ...	Shenandoah, ...	Fatally burned with powder.
	23	John Russell, . . .	Laborer, . . .	30	1	. .	Schuylkill, ...	Mahanoy City, ...	Killed by fall of coal.
Dec.	4	Patrick Rowland, .	Driver, ...	19	. .	. .	Packer No. 3, ...	Brownsville, ...	Killed between gangway face and car.
	13	Peter Meculake, . .	Laborer, . . .	24	. .	. .	Honey Brook Strippings No. 5, .	Audenried, ...	Leg broken; clay rolled on him; died in hospital 20th.
	16	John Franey, . . .	Laborer, . . .	35	. .	. .	Indian Ridge, ...	Shenandoah, ...	Fatally injured; door of car fell on him; died on the 26th.
	18	Joseph Fisher, . . .	Miner, ...	48	1	8	Lawrence, ...	Mahanoy Plane, ...	Fatally burned with fire-damp; died on the 28th.
	27	James Gallagher, .	Laborer, . . .	22	. .	. .	Silver Brook, ...	Audenried, ...	Fatally injured by fall of coal; died on the 28th.

TABLE No. 5.—List of non-fatal accidents occurring in and about the mines of the Fifth Mine District, for the year ending December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Schuylkill County.	Nature and Cause of Accident.
Jan. 8	Alpheus Barr,	Miner,	..	..	..	Shenandoah City,	Shenandoah,	Head cut by fall of coal.
13	Thomas Coakley,	Miner,	..	..	..	Ellangowan,	Maple Dale,	Hand cut by fall of coal.
14	John Bartlett,	Miner,	34	..	..	Kehley's Run,	Shenandoah,	Foot bruised by fall of coal.
20	Carl Seifert,	Carpenter,	36	1	4	Packer No. 5,	Rappahannock,	Body generally bruised; fell down shaft 45 feet.
20	William Handly,	Miner,	..	..	..	Schuylkill,	Mahanoy City,	Rib broken; coal fell off car on him.
21	Wm. Buchanan,	Driver,	..	..	..	Ellangowan,	Maple Dale,	Leg fractured; mule fell on him.
27	William Levine,	Car loader,	..	..	..	Turkey Run,	Shenandoah,	Arm severely cut; railroad car run over him.
Feb. 2	Thomas McHale,	Starter,	..	..	..	Packer No. 3,	Brownsville,	Leg fractured; struck by coal at battery.
9	John Davis,	Contractor,	48	1	6	Gilberton,	Gilberton,	Rib fractured; struck a plank coming up slope.
9	Michael Solornis,	Laborer,	26	..	..	Mahanoy City,	Mahanoy,	Leg and ribs broken by a fall of coal.
10	Henry Shirey,	Teamster,	35	1	4	Knickerbocker,	Yatesville,	Leg broken; kicked by a mule.
16	Alfred Harrox,	Driver,	18	..	..	Knickerbocker,	Yatesville,	Elbow dislocated; fell off mule's back.
17	John Toohey,	Slate picker,	14	..	..	Knickerbocker,	Yatesville,	Body bruised; caught by revolving screen.
24	John Barrett,	Miner,	..	..	..	Packer No. 4,	Lost Creek,	Leg broken by fall of coal.
25	Michael Pickron,	Driver,	23	..	..	West Shenandoah,	Shenandoah,	Leg broken; kicked by a mule.
26	Michael Harrigan,	Bottom man,	24	..	..	Park No. 3 Slope,	Park Place,	Heel cut off and arm broke; car run over him.
Mch. 8	Carter Green,	Loader boss,	21	..	..	Packer No. 1,	Colorado,	Collar-bone broken; between car and timber.
12	Morgan Hopkins,	Miner,	45	..	..	Kohinoor,	Shenandoah,	Squeezed about the loins by a fall of coal.
13	Timothy Coakley,	Driver, runner	18	..	..	Kohinoor,	Shenandoah,	Leg broken; car jumped the track on him.
15	Joseph Bowers,	Miner,	48	1	..	West Shenandoah,	Shenandoah,	Head and leg hurt by fall of coal.
15	Giosoppe Omofred,	Laborer,	26	..	..	Honey Brook Strippings, No. 4,	Audenried,	Leg broken; a piece of coal rolled on him.
29	Thomas Bane,	Miner,	48	1	..	Suffolk,	St. Nicholas,	Rib fractured; fell on a piece of coal.
April 9	Jerome Russell,	Laborer,	21	..	..	Schuylkill,	Mahanoy City,	Severely burned with powder.
9	Daniel Leery,	Driver,	17	..	..	Schuylkill,	Mahanoy City,	Severely burned with powder.
9	James Painter,	Door-boy,	15	..	..	Elmwood,	Mahanoy City,	Leg broken; squeezed between cars.
9	James Frohn,	Miner,	33	1	..	Elmwood,	Mahanoy City,	Two fingers cut off by a fall of top slate.
10	Isaac Segfert,	Loader,	50	1	..	North Mahanoy,	Mahanoy City,	Jaw-bone broken; struck by a piece of coal.
21	George Shenbing,	Miner,	23	..	..	Kehley's Run,	Shenandoah,	Leg broken; a piece of coal rolled on him.
26	Emanuel Eisenhart,	Miner,	40	1	4	Suffolk,	St. Nicholas,	Ribs fractured; coal rushed on him at battery.
May 10	George Burns,	Miner,	41	1	..	Ellangowan,	Maple Dale,	Leg broken; shot fired on him; went back too soon.
10	Anthony McCready,	Driver,	16	..	..	Park No. 2 Slope,	Park Place,	Leg broken; mule fell on him.
11	James Heil,	Miner,	25	..	..	North Mahanoy,	Mahanoy City,	Leg broken by a fall of top coal.
14	James Harlow,	Repairman,	51	1	5	Connor,	Girardville,	Small bone of leg broken; caught between cars.

May	17	Frank Mowry, . . .	Miner, ...	42	1	3	Kohinoor, ...	Shenandoah, ...	Head and body cut; shot fired on him.
	19	James Nugent, . .	Laborer, . . .	18	. .	. .	Mahanoy Jig House, ...	Mahanoy City, ...	Ruptured; fell off platform and struck a car.
	22	William McGee, . .	Coupler, . . .	16	. .	. .	Honeybrook No. 4.	Audenried, ...	Side injured; fell off car.
	22	Alexander Ruffe, .	Miner, ...	. .	. .	. .	Packer No. 4, ...	Lost Creek, ...	Small bone of leg broken by a fall of coal.
	26	James Brown, . . .	Car oiler, . . .	14	. .	. .	Honeybrook No. 5, ...	Audenried, ...	Leg lacerated; run over by a dirt dumper.
June	2	Mich. McArmally,	Miner, ...	50	. .	. .	Suffolk, ...	St. Nicholas, ...	Leg bruised between mine cars.
	5	John Short, ...	Starter, . . .	55	1	5	Gilberton, ...	Gilberton, ...	Hand blown off with giant powder.
	5	William Richards,	Whitewasher,	18	. .	. .	Elmwood, ...	Mahanoy City, ...	Leg broken; run ower by a dirt dumper.
	12	Aaron Evans, . . .	Driver, ...	15	. .	. .	Honeybrook No. 4, ...	Audenried, ...	Collar-bone and two ribs broken; between car and props.
	13	Patrick Higgins, . .	Miner, ...	33	. .	. .	Knickerbocker, ...	Yatesville, ...	Shoulder dislocated by a fall of top coal.
	18	John Whirity, . . .	Tunnel miner,	30	1	. .	Mahanoy City, ...	Mahanoy City, ...	Arm broken; his "butty" struck him with a hammer.
	22	John Matjullis, . .	Laborer, . . .	23	1	. .	Shenandoah City, ...	Shenandoah, ...	Eye knocked out by a fall of top slate.
	22	Joseph Strisell, . .	Miner, ...	44	1	. .	Ellangowan, ...	Maple Dale, ...	Leg broken; gangway log fell on him.
	24	John Smith, ...	Miner.	23	. .	. .	Elmwood, ...	Mahanoy City, ...	Arm broken; caught between car and timber.
	26	Alexander Witgeid,	Loader, . . .	21	1	. .	Bear Run, ...	St. Nicholas, ...	Leg bruised; struck with an empty car.
July	2	Robert Dempster, .	Timber loader	. .	. .	. .	Shenandoah City, ...	Shenandoah, ...	Ankle broken; his foot got fast between timbers.
	14	James Spencer, . .	Laborer, . . .	. .	. .	. .	Glendon, ...	Mahanoy City, ...	Knee squeezed between two cars.
	14	John Kesvith, . . .	Miner, ...	28	. .	. .	Gilberton, ...	Gilberton, ...	Slightly burned on face and hands with fire damp.
	15	Henry Spencer, . .	Miner, ...	. .	. .	. .	West Shenandoah, ...	Shenandoah, ...	Burned with powder while making a shot.
	21	Arthur Tresise, . .	Miner, ...	27	1	. .	Gilberton, ...	Gilberton, ...	Arm broken by a fall of coal.
	30	William Goodrich,	Miner, ...	. .	. .	. .	Kehley's Run, ...	Shenandoah, ...	Head and side injured by a fall of coal.
Aug.	10	John Mannel, . . .	Miner, ...	50	1	6	Kehley's Run, ...	Shenandoah, ...	Ribs fractured; struck by coal flying from a shot.
	11	Charles McGrath, .	Loader, . . .	. .	. .	. .	Packer No. 4, ...	Lost Creek, ...	Hip squeezed between car and timber.
	14	Andro Kusilla, . . .	Loader, . . .	25	. .	. .	Glendon, ...	Mahanoy City, ...	Body squeezed between "buggy" and platform.
	16	James Flanigan, .	Miner, ...	60	1	. .	Bear Run.	St. Nicholas, ...	Legs and body bruised by a fall of top coal.
	16	Peter Nolan, ...	Miner, ...	47	1	. .	Bear Run, ...	St. Nicholas, ...	Leg broken by same fall of coal.
	20	Matthew Dunlap, .	Miner, ...	26	1	1	William Penn, ...	Shaft P. O., ...	Eye-sight lost; going too soon back to a shot he had just lighted.
	23	Stephen Conollock,	Platform man,	. .	. .	. .	Kohinoor.	Shenandoah, ...	Hand bruised unloading head-wheel.
	24	Grant Thomas, . .	Driver, ...	18	. .	. .	South Laurel Ridge, ...	Gilbertou, ...	Legs seriously cut; car run over him.
	26	Daniel Nickol, . . .	Miner, ...	. .	. .	. .	No. 4 Honeybrook, ...	Audenried, ...	Leg broken; gangway collar fell on him.
	26	Nicholas Burke, . .	Miner, ...	. .	. .	. .	Suffolk, ...	St. Nicholas, ...	Leg and two ribs broken by a fall of top coal.
Sept.	1	John Grimes, . . .	Bottom man, .	. .	. .	. .	Schuylkill, ...	Mahanoy City, ...	Arm broken; struck by a collar riding down slope.
	8	Adam Losdosky, . .	Miner, ...	. .	. .	. .	Boston Run, ...	St. Nicholas, ...	Face and hands burned with gas.
	13	Anthony Nowles, .	Laborer, . . .	. .	. .	. .	West Shenandoah, ...	Shenandoah, ...	Knee cap jerked out of place while shoveling coal.
	17	George Balden, . .	Laborer, . . .	. .	. .	. .	Kehley's Run, ...	Shenandoah, ...	Leg broken; a slope pulley came down on him.
	21	William Northey, .	Miner, ...	. .	. .	. .	Glendon, ...	Mahanoy City, ...	Hand cut; a piece of slate fell on him.
	21	Wm. Remonoski, .	Miner, ...	. .	. .	. .	Park No. 2 Slope, ...	Park Place, ...	Body bruised; fell off platform and struck with a passing car.
	24	Anthony Davis, . .	Loader, . . .	. .	. .	. .	Glendon, ...	Mahanoy City, ...	Squeezed about the hips between two "buggies."
	27	George Hugh, . . .	Miner, ...	. .	. .	. .	Mahanoy City, ...	Mahanoy City, ...	Leg broken by a fall of top coal.
	29	George Scheipe, . .	Bottom man, .	. .	. .	. .	Suffolk, ...	St. Nicholas, ...	Shoulders squeezed between loaded cars.
Oct.	2	William Evans, . .	Miner, ...	. .	. .	. .	Girard, ...	Girardville, ...	Arm fractured by a fall of rock.
	7	Charles Clem, . . .	Miner, ...	. .	. .	. .	Boston Run, ...	St. Nicholas, ...	Ribs bruised between truck and prop.
	9	John T. Hughes, .	Miner, ...	. .	. .	. .	Kehley's Run, ...	Shenandoah, ...	Small bone of wrist broken by a premature explosion.

TABLE No. 5—*Continued.*

Date of accident.		NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Luzerne County.	Nature and Cause of Accident.
Oct.	11	William Wilkinson,	Miner,	..	..	..	Packer No. 4,	Lost Creek,	Back injured by a fall of coal from side.
	12	Peter Hill,	Miner,	28	1	1	Packer No. 5,	Rappahannock,	Eye-sight lost by a premature explosion while tamping a hole.
	12	William Cooper,	Laborer,	26	1	1	Packer No. 5,	Rappahannock,	Injured about face and body at same time as Peter Hill.
	19	Samuel Downing,	Miner,	..	..	..	Suffolk,	St. Nicholas,	Collar-bone broken by a fall of top slate.
	21	Jasper Long,	Footman,	..	..	..	Honeybrook No. 4 Slope,	Audenried,	Collar-bone broken; caught between car and pillar.
	26	Thomas Neary,	Miner,	..	..	..	Knickerbocker,	Yatesville,	Head and body bruised by a fall of top slate.
	30	Bryon Holly,	Miner,	..	..	..	Park No. 8 Slope,	Park Place,	Small bone of arm broken by a fall of coal.
Nov.	2	Martin Hooligan,	Laborer,	24	..	..	Park No. 2 Slope,	Park Place,	Slightly injured by a fall of top slate.
	3	Frank Barjoroski,	Laborer,	30	..	..	Park No. 2 Slope,	Park Place,	Slightly injured by a rush of coal in chute.
	4	Thomas Rowland,	Miner,	..	..	..	Packer No. 3,	Brownsville,	Leg broken by a fall of top coal.
	5	Joseph Novitski,	Loader,	24	..	..	Ellangowan,	Maple Dale,	Injured internally; rushed across the cage hole and cage came down on him.
	8	John Kosser,	Box dumper,	28	..	..	West Shenandoah,	Shenandoah,	Leg broken; slipped and rolled down breaker steps.
	8	Owen Delaney,	Miner,	..	..	..	Lawrence,	Mahanoy Plane,	Injured on back; coal fell off car on him.
	17	John Bohanna,	Miner,	54	1	4	Hammond,	Girardville,	Injured about back by a fall of coal.
	23	Patrick Higgins,	Miner,	..	..	..	Shehandoah City,	Shenandoah,	Head, leg, and arm injured by a fall of top slate.
	25	Henry Heiler,	Repairman,	..	..	..	Ellangowan,	Maple Dale,	Burned slightly with gas.
	26	Nicholas Griu,	Repairman,	..	..	..	Primrose,	Mahanoy City,	Foot injured; car run over it.
Dec.	11	Michael McGlinn,	Miner,	..	..	..	Park No. 3 Slope,	Park Place,	Leg broken by a fall of coal in chute.
	16	James Grady,	Miner,	32	1	3	Hammond,	Girardville,	Shoulder-blade broken by a fall of coal.
	20	Joseph Vanliski,	Laborer,	23	..	..	Park No. 2 Slope,	Park Place,	Three fingers smashed between cars.
	22	John O'Brien,	Slate picker,	17	..	..	Park No. 1,	Park Place,	Leg severely smashed; elevator cog-wheel broke and fell on him.
	22	William Miller,	Miner,	..	..	..	Turkey Run,	Shenandoah,	Leg broken by a fall of coal while preparing to stand timber.
	30	Patrick Crosser,	Miner,	..	..	..	Park No. 1,	Park Place,	Struck on the eye by a piece of hook spike while putting rails in place; patient in hospital.
	30	John Grigutes,	Loader,	23	..	..	Ellangowan,	Maple Dale,	Leg broken between gangway log and car.
	31	John Bainbridge,	Pump'g eng'r	46	1	5	Ellangowan,	Maple Dale,	Rib broken and back injured; fell against plank while repairing pump.

Sixth Anthracite Coal District.

Synopsis of the report of Inspector James Ryan, for the year ending December 31, 1886. Compiled by the Bureau:

Number of mines in the district,	43
Number of mines operated from which statistics were gathered,	43
Average working time, in days, for forty-three mines,	192
Persons employed inside of mines,	8,523
Persons employed outside of mines,	5,891
Total number of persons employed,	14,414
Number of fatal accidents,	31
Number of non-fatal accidents,	122
Persons employed per fatal accident,	465
Persons employed per non-fatal accident,	118
Number of tons of coal mined,	3,714,519
Number of tons of coal shipped,	3,463,266
Number of tons increased production over year 1885, (decrease,)	490,901
Number of tons of coal mined per fatal accident,	119,823
Number of tons of coal mined per non-fatal accident,	30,440
Number of kegs of powder used in mines,	93,752
Number of steam boilers in use,	982
Number of horses and mules in service,	1,637
Number of widows,	16
Number of orphans,	64

There was a decrease of fourteen in the list of fatal, and a like decrease in the number of non-fatal accidents.

SIXTH ANTHRACITE DISTRICT.

OFFICE OF INSPECTOR OF MINES,
ASHLAND, *March 7, 1887.*

Honorable J. SIMPSON AFRICA, *Secretary of Internal Affairs:*

SIR: In compliance with an act of Assembly entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved June 30, 1885, I herewith have the honor of submitting this, my ninth annual report, which contains a list of the persons killed and injured; the number of tons of coal mined and shipped to market; number of kegs of powder used; number of days worked; number of persons employed; number of mules and horses; number of steam boilers in and about the collieries in the district during the year 1886, and such other information as may be deemed necessary to those employed or interested in the mining and production of coal.

Total production for year 1886,	3,714,519
Total production for year 1885,	4,205,420
Decrease under that of year 1885,	490,901
Number of employés inside,	8,523
Number of employés outside,	5,891
Total number of employés in district,	14,414
Number of kegs of powder used during the year,	93,752
Number of days worked during year,	192
Number of mules and horses,	1,637
Number of steam boilers,	982
Number of fatal casualties,	31
Number of non-fatal casualties,	122

RECAPITULATION OF FATAL CASUALTIES.

Falls of coal and roof,	10
Mine cars and machinery,	5
Falling down slope,	3
Kicked by mules,	3
Premature blast,	1
Explosion of carburetted hydrogen gas,	1
Suffocated by foul air,	1

Miscellaneous inside,	6
Miscellaneous outside,	1
Total,	31

Recapitulation of Non-fatal Casualties.

Falls of coal and roof,	39
Mine cars and machinery,	24
Explosion of carburetted hydrogen gas,	19
Premature blasts,	4
Explosions of powder,	4
Miscellaneous inside,	20
Miscellaneous outside,	12
Total,	122

JAMES RYAN,
Ashland, Pa.

Injunctions.

On two occasions I was forced to resort to legal proceedings, in order to enforce compliance with the provisions of the mine law, against Thomas Baumgardner & Co.'s Enterprise colliery, and Thomas J. Wolf & Co.'s Eureka colliery.

A hearing was had in the former case before his Honor William M. Rockafeller, president judge of Northumberland county, who granted the injunction asked for.

In the case of the Eureka colliery, the defendants failed to put in an appearance at court, consequently his Honor Judge Rockafeller granted the injunction, which thus far has not been dissolved, the defendants neglecting to move in the matter of improving the condition of the colliery.

Ventilation.

The general condition of the collieries of this district as to ventilation is satisfactory, with the exception of a few cases, where I find inside foremen negligent in having the air current properly circulated in face of narrow workings, *i. e.*, chutes and headings and gangways, etc., in some mines where fire-damp or carburetted hydrogen is not generated.

There are forty-four (44) collieries in this district ventilated by sixty-five (65) fans. Thirty-seven (37) of these collieries are in active operation and ventilated by fifty-eight (58) fans.

Falls of Coal and Roof.

There were ten lives lost from the above causes out of a total of thirty-one, being over thirty-two per cent. of the whole number of fatal

casualties for the past year. The number of non-fatal casualties from the same source was thirty-nine, being nearly thirty-two per cent. of the whole number of non-fatal casualties. In reviewing the causes which contribute to some of this class of accidents, I found that with a reasonable amount of care and prudence on the part of the unfortunate victims themselves, we would not be called upon to chronicle the sad fate of the poor fellows who have to earn a livelihood down in the bowels of the earth. It is sad in the extreme to behold a wife in poor circumstances, with the little ones running about not knowing what loss they sustain in the death of their father, left to the cold charity of this world. In fact, there are several other sources of danger connected with mining operations, such as the handling of powder, attempting to couple and uncouple mine cars while in motion, etc., where the safety of the workmen, to a great extent, depends on themselves. It behooves them, as well as those in charge, to be always on the alert with a view to reduce the number of casualties to the lowest possible minimum. It is my sincere desire to see that accomplished in the very near future.

NUMBER of fatal accidents and amount of coal produced per life lost by the different companies and individual firms during year 1886.

OPERATORS.	Number of tons of coal produced.	Number of fatal casualties.	Amount of coal produced in tons per life lost.
Philadelphia and Reading Coal and Iron Company,	1,551,705.10	14	110,836 3/5
Mineral Railroad and Mining Company,	309,659.09	5	61,932
Union Coal Company,	338,069.11	2	169,034 1/10
Summit Branch Railroad Company,	193,799.01	1	193,799 1/10
Lykens Valley Coal Company,	214,065.00	1	214,065
Lewis A. Riley & Co.,	392,108.07	4	98,027 7/10
Individual firms,	715,112.13	4	178,778 13/20

COMPARATIVE STATEMENT of casualties, coal tonnage, and employés of the Sixth Anthracite Mining District of Pennsylvania for the years 1882, 1883, 1884, 1885, and 1886.

YEARS.	Killed.	Injured.	Total.	Total number of employés.	Number of employés to each casualty.	Total number of tons of coal mined.	Number of tons of coal mined to each fatal casualty.	Number of tons of coal mined to each non-fatal casualty.	Number of tons of coal mined to each casualty.	Number of tons of coal mined to each employé.
1882,	44	182	226	12,973	57.4	4,588,799.04	104,290.00	25,213.00	20,304.00	353.00
1883,	64	170	234	14,588	62.4	4,813,162.12	75,205.14	28,312.15	20,141.14	329.18
1884,	56	174	230	15,568	67.3	4,535,051.13	80,983.01	26,063.10	19,717.12	291.06
1885,	45	136	181	14,202	78.4	4,205,420.17	93,453.15	30,922.04	23,234.07	296.02
1886,	31	122	153	14,414	94.3	3,714,519.11	119,823.04	30,445.04	24,277.18	243.16

TABLE showing the grand total of employés, horses, mules, steam boilers, and powder used, tons of coal mined and shipped, fatal and non-fatal casualties in the Sixth Anthracite Mining District for the year ending December 31, 1886.

NAMES OF COUNTIES AND PARTS OF COUNTIES IN THE DISTRICT,	Total number of employés.	Total number of horses and mules employed.	Total number of steam boilers in use.	Total number of kegs of powder used.	Total number of tons of coal mined.	Total number of tons of coal shipped.	Total number of fatal casualties.	Total number of non-fatal casualties.
Northumberland county,	8,495	956	508	59,997	2,250,822.18	2,122,265.05	21	71
Schuylkill county,	1,727	199	131	5,615	454,101.10	433,502.10	. . . .	12
Columbia county,	2,036	203	162	17,376	601,731.02	563,848.01	8	9
Dauphin county,	2,156	279	181	10,764	407,864.01	343,650.02	2	30
Total,	14,414	1,637	982	93,752	3,714,519.11	3,463,265.18	31	122

Falls of Coal and Roof.

ACCIDENT No. 1.—Christian Liskow, miner, aged fifty-three years, was fatally injured by a fall of coal in Monitor colliery, January 4, 1886, and died while being removed to his home. He left a wife and three children to mourn his loss. Deceased and another miner, named Charles Burmeister, were, at the time of the accident, robbing the pillar between breasts Nos. 35 and 36, on lower west gangway, in the Mammoth vein. According to the evidence of Burmeister, about three quarters of an hour previous to the fall, they tried to bar down the lump which fell; failing in this, they concluded that it was safe to work under it. About three quarters of an hour after, while deceased was working under it, without giving any warning, it fell on him.

ACCIDENT No. 2.—Patrick Murphy, miner, aged twenty-five years, and single, was killed by a fall of top rock in Cameron colliery, February 6, 1886. Deceased and three other men, named Patrick Deane, Alexander E. Bradley and Alexander S. Bradley, were employed robbing pillars in No. 4 vein, upper drift. About ten, A. M., they drilled and tamped a hole in a pillar over the gangway, and left it standing until some cars, which they had loaded inside, were hauled out. After eating dinner, deceased fired the blast, and while dressing off the loose coal left after the shot, the top rock, without giving any warning, fell, killing him instantly.

ACCIDENT No. 3.—James Flynn, miner, aged forty-one years, was injured by a fall of top coal in Mount Carmel Shaft colliery, February 23, 1886, and died about three hours after the accident, leaving a wife. At the time of the accident, deceased and two other miners, named Thomas Moore and George Raudenbush, were engaged robbing the pillar between breasts Nos. 1 and 2 on No. 3 slant, north. Deceased after going into work in the morning, drilled and fired a hole in the top coal, while Moore and Raudenbush loaded two cars. After they had the cars loaded, they went up to the face of their working place and commenced to put coal in the chute. Then deceased commenced to drill a hole in the bottom coal, and while engaged, a piece of top coal fell, striking him, and inflicting injuries from which he died. Deceased was an old, experienced and careful miner.

ACCIDENT No. 4.—John Cannon, miner, aged fifty years, was fatally injured by a fall of top coal in Locust Spring colliery, March 10, 1886, and died on the 22d. He left a wife and seven children. Deceased and another miner, named Richard Maley, were employed robbing pillars in Skidmore Vein. About twelve, M., on the night of the accident, while deceased was barring up some bottom coal with a drill, a little bench of top coal which was over him fell.

ACCIDENT No. 5.—William Roberts, miner, aged fifty-four years, was killed by a fall of top slate (clod) in Excelsior colliery on April 7, 1886. He left a wife and three children. Deceased and a Polish man named Halcavitch, were employed robbing pillars in "B" drift. After going

in to work on the morning of the accident, deceased and Halcavitch, after fruitless efforts to bar down the top slate, decided that it was safe to work. Then Halcavitch loaded a car, while Roberts went away some distance. When he came back, Roberts looked at the top but said nothing. Then he went away again. When he came back, the second car was loaded. Then he commenced drilling a hole, and while thus engaged the fall took place, completely covering him.

ACCIDENT No. 6.—Patrick Welsh, miner, aged twenty-six, was killed by a fall of coal in Logan colliery, July 15, 1886. He left a wife and one child. On the day of the accident, deceased and his brother, Michael, were working together in a breast in Buck Mountain vein. On going in to work in the morning, deceased drilled and fired a hole in the blasting bench on the inside pillar. The shot did not throw all that was before it, but left a lump at the back end of the hole. Deceased then got a drill and commenced to bar it. His brother told him to get out from there, because he thought it was too dangerous for him; that he should drill a hole further under the blasting bench, and that the top would then fall itself. To this deceased replied, "There is no danger," and continued barring. The moment his brother had forbidden him to bar under it the bench fell, killing him instantly.

ACCIDENT No. 7.—David Hutchison, laborer, a single man, aged seventeen years, was killed by a fall of top rock in Luke Fidler colliery, August 5, 1886. On the day of accident, deceased and three other men, named Benjamin Bowman, Edward Cox and Owen McWilliams, were engaged taking the rails out of No. 1 slope, east counter, No. 8 vein gangway. According to the evidence taken at the inquest, deceased and Bowman were on the low side, and Cox and McWilliams on the high side of the gangway driving the heads of the spikes into the sills. Both parties had driven two spikes, and were driving the third when the top, without giving any warning, fell, covering Hutchison, killing him instantly.

ACCIDENT No. 8.—Henry Knentz, miner, aged thirty-five years, was killed by a fall of top slate (sulphur ball), in Locust Spring colliery, November 3, 1886. He left a wife and four children. Deceased and another miner, named Owen Donnelly, were working together in a breast in the west counter, west slant gangway. About two, P. M., while Donnelly was eating his dinner, deceased was putting a prop under the top slate, and while doing this the top slate fell, covering him and killing him instantly. Deceased was a good, careful and experienced miner.

ACCIDENT No. 9.—G. Harvey Paul, miner, aged thirty-two years, was fatally injured by a fall of coal in Cameron colliery, November 4, 1886. He died November, 5, 1886, leaving a wife and five children. Deceased and another miner, named Lawrence Comfair, were working together in breast No. 50, east No. 9 vein, east slope. About twelve, M.,

while deceased was making room at the top of his manway for a prop, a large slip of coal fell out on him, breaking his collar-bone and inflicting other bodily injuries.

ACCIDENT No. 10.—Benjamin Hain, laborer, a single man, aged twenty-five years, was fatally injured by a fall of coal in Williamstown colliery on December 1, 1886, and died the same day. On the day of the accident, deceased and two miners, named Robert Bell and Darby Kerwin, were employed driving the No. 4 slope, west counter gangway. At the time of the accident, deceased and Bell were loading a truck with slate, Bell shoveling on the high side and deceased on the low side, preparatory to putting in a set of timber at the face. While thus engaged, a piece of coal with a crack fell from the high side and top, striking deceased, inflicting the injuries from which he died.

The piece which fell was two feet thick, four feet wide, and seven long.

Mine Cars and Machinery.

ACCIDENT No. 1.—John Maculy, slate-picker, a single man, aged twenty years, was killed January 26, 1886, by being crushed in the counter screen cog-wheels, while attempting to start the blocked coal in the hopper or feed chute, between the upper and lower sets of rollers, in Pennsylvania colliery breaker. By the evidence taken at the inquest, it appears that the coal occasionally blocked in this chute or feed hopper; frequently two or three times during the day. On the morning of the accident, it blocked soon after the breaker started work, and deceased went to start it. While thus engaged, he was caught by the cog-wheels and instantly killed. Also, according to the evidence, he went there contrary to orders, because whenever this chute was badly blocked the machinery was stopped until the coal was started. In this and in previous cases deceased went to start the coal while the machinery was in motion.

ACCIDENT No. 2.—Daniel Lucas, timber-man, aged fifty-one years, was injured on June 19, 1886, at Pennsylvania colliery, by being crushed between mine cars outside, and died June 29, 1886. He left a wife and seven children. Deceased and another timber-man, named Aaron Shultz Knittle, were engaged putting eight props, eight poles, and five planks into an empty car, preparatory to sending it down into the mine; deceased holding the door of the mine car while Knittle put the timber in the car. After the timber was loaded, and while marking the number and name of the place on the car with chalk, an empty trip of cars, pushed by a small locomotive from breaker to slope, struck deceased, who was standing in front of the car they loaded, inflicting fatal injuries.

ACCIDENT No. 3.—Patrick Cavanagh, boss loader, aged thirty-five years, was killed in Locust Gap colliery on July 4, 1886, by being caught between top of mine car and the upper set of sump timber at

the bottom of the pump slope. He left five children. On the morning of the accident, deceased and four or five other men were cleaning the sump at the bottom of the pump slope. By the evidence it appears they commenced to clean the sump about half past five, A. M. Shortly before the accident, which occured about half past seven, A. M., some of the men asked for oil, because their lamps were getting dry. Deceased told them he would get some. When deceased said this he was standing on the top of the car taking water from Thomas Maley, who was bailing it with a keg and throwing it into the car. When the car was full deceased shouted to Conrad Carl, who was at the rapper, to rap up the car. While the car was being hoisted, deceased remained on the top of it until he was caught between it and the upper set of timber in the sump. He was crushed and thrown down into the sump and instantly killed.

ACCIDENT No. 4.—James Bradbury, driver, a single man, aged twenty years, died September 3, from injuries received in Merriam colliery August 25, 1886, by being crushed between the top of a loaded mine car and a gangway collar. By the evidence, deceased was employed driving from the west tunnel workings out to the bottom of the slope. About four o'clock, P. M., while he was sitting on the top of the first of a loaded trip of cars, which were being brought out to the turn-out at the bottom of the slope, he came to a low gangway collar, between the tunnel and the turn-out, and while passing under it he was crushed between the car and the collar. The distance from the rail to the collar was six feet four inches, and from the rail to the top of the mine car five feet two inches, thus leaving a space fourteen inches between the top of the car and the collar.

ACCIDENT No. 5.—Eltz Kramer, loader and driver, a single man, aged twenty-one years, died October 9, from injuries received in Bear Valley colliery on October 7, 1886, by being crushed between empty mine car and gangway timber. This accident occurred about half past eleven, A. M. The colliery on this day was to work only half the day. At the time of the accident deceased was taking a trip of two empty mine cars from the cross-cut, between Nos. 8 and 9 vein, in to top split of mammoth vein, at west side. The cars were going at a lively rate, and when he came near the cross-cut leading into the top split he jumped off the front car, on which he was riding, to turn the mule into the "split." The front car jumped the track at the centre casting, and before deceased could get out of the way it caught and crushed him against the gangway low-side leg.

Premature Blast.

ACCIDENT No. 1.—John M. Thomas, miner, aged thirty-five years, was fatally injured by a premature blast in Stirling colliery, June 10, 1886, and died in about nine hours after the accident. He left a wife and three children to mourn his sad fate. On the day of the accident

deceased and another man, named Archibald Thomas, were engaged blasting down top rock over the slant gangway, at the west side, preparatory to putting in double timber. They drilled a hole about one foot deep, charged and tamped it, and lit the fuse. They then went to a place of safety, and, as the blast did not go off for ten minutes, deceased was going to see what was wrong, and was within six feet of the blast when it exploded. Pieces of rock struck him on the head, face, and body.

Falling Down Slope.

Accident No. 1.—Owen Monaghan, repairman, aged thirty years, was killed on May 11, 1886, by falling down Centralia colliery, No. 2 slope. He left a wife and one child. Deceased at the time of the accident was putting boards in place at the east side of the slope, near the top of the third lift, to turn some water into the sump that was escaping from the second lift. He was standing on a plank extending from the east side of the slope to some sills, when, by some mishap, he fell off the plank down the slope, a distance of forty or forty-five yards, on an angle of about fifty-eight (58°) degrees. When found, shortly after, life was extinct.

Accident No. 2.—Robert M. Jones, engineer, aged thirty-nine years, was killed September 9, 1886, by falling down Greenback slope. He left a wife and eight children. Deceased and another man, named Matthew Lambert, were employed as pump engineers, one night, the other day, exchanging every week. At the time of the accident, deceased was working by night. He came to work about half past five, P. M., and he and Lambert talked for a while on the top of the slope. Then Lambert went home. According to the evidence of William Beadle, the hoisting engineer on night turn that week, he left deceased down the slope about half past six, P. M. He (Beadle) discovered that a feed pump on top, which he also was running to feed the boilers, was running on air. He then went down the slope to the top lift, and found one of deceased's pumps also running on air. He also found deceased's hat and lamp in the truck in which he (Jones) was left down the slope. Beadle then looked in the upper lift pump engine-house for deceased, but could not find him. He then went down the slope convenient to the surface of the water. There he found him dead. He way lying on his back, his head up the pitch, and his right arm caught around a spring pole in use on the pump.

Accident No. 3.—James Ryan, top of slope man, a single man, aged eighteen years, was killed in Big Mountain colliery by falling down the slope November 3, 1886. It appears by the evidence that during the dinner hour, after he had eaten his dinner, he, with another young man, went down about nine or ten feet below the knuckle or top of slope, as was customary, to put in a pulley. When about finished he slipped and rolled down the slope to the bottom. When found he was dead, his brains oozing out through his skull.

Explosion of Carburetted Hydrogen Gas.

ACCIDENT No. 1.—Daniel Woland, miner, aged thirty-five years, died on August 26, 1886, from injuries received on the 23d by being burned by carburetted hydrogen gas in Lykens Valley colliery. According to the evidence taken at the inquest, about twelve o'clock, M., there was a rush of coal in one of the breasts of the Short Mountain and Lykens Valley colliery, No. 3, east gangway, by which a large quantity of carburetted hydrogen gas was given off. This gas was ignited by the naked lamp of John Cook, who was standing on the gangway a considerable distance outside of where the rush of coal and gas took place. James G. Bateman, the inside foreman, fearing that the explosion might set the mine on fire, with seven other men, went along the breeches on the mountain and to the mouth of an air-hole outside to make an examination and ascertain if there were any indications of a fire being down in the mine. According to the evidence, when they arrived at the mouth of the air-hole, everything seemed to be right. Then Mr. Bateman, who was inside of the mouth of the air-hole, between the first and second sets of timber, struck a light with a match, igniting the gas, which gushed out of the mouth of the air-hole, burning all the men; severely injuring some of them.

Kicked by Mules.

ACCIDENT No. 1.—James Curran, driver, aged nineteen years, a single man, died January 26, 1886, from injuries received in Bear Valley shaft colliery on December 17, 1885, by being kicked by a mule. Deceased was employed driving a team of five mules between the turn-out at the west side of the shaft bottom and inside turn-out. On the morning of the accident, when his trip of empty cars started in from the turn-out, he stood at the side while the mules passed. While the third mule was passing him, he kicked and struck him on his hip. He worked after being kicked.

In my investigation of this accident, I was informed that the doctor treated him for rheumatism for some time after the accident, until it was ascertained that the injury was caused by the kick of the mule. On January 20, 1886, the wound was lanced. He died on the 26th. I learned that this mule was of a vicious and stubborn nature, and that deceased was bent on conquering him.

ACCIDENT No. 2.—James, Andrew, outside laborer, a single man, aged eighteen years, was killed in the outside stable at Hazle Dell colliery strippings, August 18, 1886, by being kicked by a mule. This accident occurred in the stable during the dinner hour. The water for watering the mules was kept in a barrel in the stable. On the day of the accident the mule was in his stall in the stable. Deceased brought a horse to water, and while drinking the horse stood behind the mule, deceased standing between the two. While in these positions the mule kicked twice, the first time striking the horse in the

side, the second striking deceased on the head near the temple, killing him instantly.

Accident No. 3.—John Alexander, Jr., top of slope man at the inside slope of Hazle Dell colliery, a single man, aged ——— years, died December 8, 1886, from injuries received the same day by being struck on the side of the head by a tail-chain, which was kicked by a mule he was driving at the time. The loaded track on the turn-out near the top of the slope was full of loaded coal cars. Two loaded rock cars stood on the empty track. Deceased hitched a mule to the loaded rock cars to admit of empty cars being hauled in. The mule pulled the first car and stretched the coupling chain of the second, but then refused or was not able to pull both cars. Deceased tied him to the loaded coal cars with a halter chain and whipped him. Then deceased hitched the mule to the rock cars a second time, but with the same result, only this time he kicked the tail chain off and ran toward the head of the slope. He was stopped by a young man by the name of Taylor. Deceased then brought him back and hitched him a third time to the rock cars, but he could not pull them. Deceased whipped the mule again, and the mule again kicked the tail-chain off and ran for the head of the slope a second time. Deceased brought him back and tied him with a halter chain to the cars loaded with rock, and commenced to whip him. The mule began to kick, and while doing so he struck the tail-chain with such force that it in turn struck deceased on the side of the head, inflicting injuries of such a nature as to cause his death from concussion of the brain.

Suffocated by Foul Air.

Accident No. 1.—Joseph Zoborney, miner, aged forty-nine, was suffocated by bad air in Luke Fidler colliery on April 19, 1886. He left a wife and three children. At the time of the accident, deceased and a laboring man, named Frank Jacinskie, were driving, at the east side, an air-hole in No. 9 vein from No. 1, inside slope, lower level, up to the counter gangway. Between nine and ten o'clock, P. M., they fired a blast, and they stopped down the breast, after the blast, to let the smoke clear away. Then both went up towards the face. Deceased stopped a short distance below the upper end of the brattice, while Jacinskie went up and dressed off the loose stuff after the blast. After he had done this, he came down to where deceased was sitting, and they talked awhile. Then Jacinskie went up to the face of the hole and commenced to drill a hole. He felt a queer feeling coming over him, which was the effect of the bad air, and called to deceased. He got an answer this time. After awhile he called again, but this time he got no answer; he called again and got no answer. Then he came down to where deceased was sitting. When he got down to where deceased was, Zoborney's light was out. Jacinskie put his left hand on deceased's breast and his right on his shoulder; while doing this, Ja-

cinskie's light went out, and he tried to strike some matches with which to light his lamp, but the matches would not burn. Jacinskie then went down to the gangway and out to the slope. There he commenced shouting, thinking that somebody might be within hearing distance. He then went up the slope in the dark, until he came to the bottom of the shaft. There he found the pump engineer. Then they made known what had occured, and men went down into the mine to where deceased was lying and brought him out to the surface.

Miscellaneous Inside.

ACCIDENT No. 1.—Daniel Miller, timberman, a single man, aged twenty-two years, died February 14, 1886, from injuries received in Bellmore colliery on February 12, 1886, while unloading timber out of a "gunboat" or large car at the bottom of the slope. Deceased and another man, named Madigan, were employed loading and unloading timber for the workingmen. A crane is used for lifting the timber out of the car, and at the time of the accident, they were at the bottom of the slope unloading a car of timber, Madigan taking up the slack chain while deceased was down in the car, and had the chain hitched around a gangway leg. According to the evidence of Madigan, something came down the slope and struck the crane. Then he stepped back and called to deceased if there was anything wrong, but got no answer. He then looked down into the gunboat pit and saw deceased lying across the timber in the car.

ACCIDENT No. 2.—Isaac F. Kluck, miner and general repairman, aged thirty-two years, was killed by a rush of coal and dirt in Bellmore colliery, April 14, 1886. He left a wife and three children. At the time of the accident, deceased and another man, named Charles Bickel, were cleaning up some slate that fell from the roof over the gangway at No. 25 breast, inside chute in Buck mountain vein. Deceased was breaking the slate with a hammer, while Bickel was throwing it on the low side. When about to clean it up, Bickel remarked to deceased: "I think the roof is not safe," to which he replied: "Oh yes, I think it is safe; I don't think there is much in the chute; if there is, it is packed so tight that it cannot well give way." In a short time after the fall took place, discharging the chute props, thus causing the loose coal and dirt in the chute to rush down into the gangway, completely covering Kluck. When taken from the pile life was extinct.

ACCIDENT No. 3.—Edward Jones, driver, a single man, aged twenty-one years, was killed in Mt. Carmel colliery, July 9, 1886, by being struck by flying coal from a blast. At the time of the accident, deceased and another driver, named Andrew Dreaher, had taken in a trip of five empty cars to a certain point on No. 3 slope, west countergangway, preparatory to having them loaded. Two miners, named John Zupka and Joseph Mandy, who were working in a breast on the lower level, fired a blast, which blew through into the upper gangway;

some of the coal striking Jones, inflicting injuries which caused his death while being removed to his home.

Accident No. 4.—Patrick Langon, miner, aged forty-eight years, died on August 13, from injuries received on the 7th in North Ashland colliery, by being struck by coal from a blast. He left eight children. Deceased and his son John were working together in breast No. 3, at the west side in Buck Mountain vein. Between two and three o'clock, P. M., they drilled and tamped a hole at the face of the breast, opposite the inside manway. After they had the hole tamped, they pulled the needle out and put in a patent squib preparatory to firing. Then they commenced to put a length of planks on the manway props. Langon was at the upper end holding the planks in place on the props, the son at the lower end driving the spikes. While thus engaged the blast exploded, some coal striking the father, inflicting fatal injuries.

Accident No. 5.—Charles Bickel, chute starter, aged forty years, was killed in Bellmore colliery, October 19, 1886, while starting the battery in inside chute of breast No. 30, top vein, west side. He left a wife. On the day of the accident, deceased was employed as chute starter. In the morning, about seven o'clock, he got dualin caps and squibs from Richard White, one of the inside bosses. From that time until fifteen minutes after ten, A. M., when he was found dead in the chute, no body knew of his whereabouts. When found by White, he was lying up the pitch with his head, on the side of which was a large wound.

Accident No. 6.—Charles Albert Sellers, laborer, aged thirty-two years, was killed in Buck Ridge colliery, November 15, 1886, in No. 8 slope by a prop falling on him. He left a wife and one child. At the time of the accident, deceased and four or five other men were employed cleaning up and timbering the slope. William Rehrer, the man in charge, according to the evidence, forbade deceased a dozen times before the prop fell on him, digging near it. Rehrer said that he did not want it disturbed until a new set of timber was put in; unmindful of the orders, he, at intervals, would pick near it, thereby loosening it and causing it to fall on him, killing him instantly.

Miscellaneous Outside.

Accident No. 1.—Daniel H. Shaffer, outside laborer, aged ——— years, killed instantly on Cameron colliery dirt bank by being crushed between the bumpers of dirt cars in attempting to uncouple them while in motion, March 4, 1886. He left a wife and two children. A locomotive is used to haul the dirt out to end of dirt bank. On the day of the accident, between three and four o'clock, P. M., when the loaded dirt cars were out near end of dirt bank, and in motion, Shaffer attempted to uncouple them, and his head was caught between the bumpers.

TABLE No. 1—Showing location of collieries in the Sixth Anthracite Mine District.

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Mt. Carmel shaft,	Philadelphia and Reading Coal and Iron Co.,	Mt. Carmel twp., Northumberland.	Monroe T. Schreffler,	Shamokin, Northumberland county.
Bast,	Do. do. do.	Big Mine Run, Schuylkill,	John Carl,	Mt. Carmel, Northumberland county.
Bear Valley,	Do. do. do.	Coal twp., Northumberland,	Monroe T. Schreffler,	Shamokin, Northumberland county.
Burnside,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county,
Sterling,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county.
Peerless,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county,
Henry Clay,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county.
Big Mountain,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county.
Buck Ridge,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county.
Reliance,	Do. do. do.	Mt. Carmel twp., Northumberland.	John Carl,	Mt. Carmel, Northumberland county.
Locust Gap,	Do. do. do.	Mt. Carmel twp., Northumberland.	Monroe T. Schreffler,	Shamokin, Northumberland county.
Locust Spring,	Do. do. do.	Mt. Carmel twp., Northumberland.	do. do.	Shamokin, Northumberland county.
Monitor,	Do. do. do.	Mt. Carmel twp., Northumberland.	do. do.	Shamokin, Northumberland county.
Merriam,	Do. do. do.	Mt. Carmel twp., Northumberland.	John Carl,	Mt. Carmel, Northumberland county.
North Franklin No. 1,	Do. do. do.	Trevorton, Northumberland,	Monroe T. Schreffler,	Shamokin, Northumberland county.
North Franklin No. 2,	Do. do. do.	do. do.	do. do.	Shamokin, Northumberland county.
Keystone,	Do. do. do.	Locust Dale, Schuylkill,	John Carl,	Mt. Carmel, Northumberland county.
Tunnel,	Do. do. do.	Ashland, Schuylkill,	do.	Mt. Carmel, Northumberland county.
North Ashland,	Do. do. do.	Conyngham twp., Columbia,	do.	Mt. Carmel, Northumberland county.
Preston No. 2,	Do. do. do.	Girardville, Schuylkill,	Elijah Gregory,	Girardsville, Schuylkill co.,
Preston No. 3,	Do. do. do.	do. do.	do.	Girardsville, Schuylkill co.,
Williamstown,	Summit Branch Railroad Company,	Williamstown, Dauphin,	Thomas M. Williams,	Lykens, Dauphin county,
Short Mountain and Lykens Valley,	Lykens Valley Coal Company,	Wiconisco, Dauphin,	do. do.	Lykens, Dauphin county,

Cameron,	Mineral Railroad and Mining Company,	Shamokin, Northumberland,	Edwin Ludlow,	Shamokin, Northumberland county.
Luke Fidler,	Do. do. do.	do. do.	do.	Shamokin, Northumberland county.
Hickory Swamp,	Union Coal Company,	Coal twp., Northumberland,	Holden Chester,	Shamokin, Northumberland county.
Hickory Ridge,	Do. do.	do. do.	do.	Shamokin, Northumberland county.
Pennsylvania,	Do. do.	do. do.	do.	Shamokin, Northumberland county.
Lancaster,	Smith and Keiser,	do. do.	William Smith,	Shamokin, Northumberland county.
Garfield,	Garfield Coal Company, Limited,	do. do.	William H. Douty,	Shamokin, Northumberland county.
Royal Oak,	Tillet & Brother,	Shamokin, Northumberland,	Jonas Tillet,	Shamokin, Northumberland county.
Neilson shaft,	J. Langdon & Co.,	do. do.	A. H. Storrs,	Shamokin, Northumberland county.
Excelsior,	Excelsior Coal Mining Company,	Excelsior, Northumberland,	A. Robertson,	Shamokin, Northumberland county,
Enterprise,	Enterprise Coal Company,	do. do.	F. J. Morgan,	Excelsior, Northumberland county.
Mt. Carmel,	Thomas M. Righter & Co.,	Mt. Carmel, Northumberland,	Thomas M. Righter,	Mt. Carmel, Northumberland county.
Big Mine Run,	Jeremiah Taylor,	Big Mine Run, Schuylkill,	Jeremiah Taylor,	Ashland, Schuylkill county.
Logan,	Lewis A. Riley & Co.,	Centralia, Columbia,	Edward Reese,	Centralia, Columbia county.
Centralia,	Do. do.	do. do.	do.	do. do.
Hazle Dell,	Do. do.	do. do.	do.	do. do.
Continental,	Lehigh Valley Coal Company,	Conyngham twp., Columbia,	D. P. Brown,	Lost Creek, Schuylkill co.,
Morris Ridge,	Isaac May & Co.,	do. do.	James May,	Shamokin, Northumberland county.
Bellmore,	S. S. Bickel & Co.,	do. do.	Tobias Bickel,	Mt. Carmel, Northumberland county.

TABLE No. 2—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Sixth Anthracite Mining District, for the year ended December 31, 1886.

NAMES OF COLLIERIES.	Location.	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number of fatal accidents.	Number of non-fatal accidents.	Number kegs powder used.	Number of steam boilers.	Number of horses and mules.	Number mine locomotives.
Peerless,	Coal township, Northumberland county,	66,045.00	62 306 12	233¼	282		1	2,650	24	21	
Buck Ridge and Greenback,	Do. do.		Idle.		59	2			28	3	
Mt. Carmel Shaft,	Mt. Carmel twp., Northunberland county,	74.632 00	70 407.12	79¾	73	1	2	2 050	23	69	
Locust Gap,	Do. do.	97.377 00	91 865 10	292½	322	1	3	2 260	16	28	
Keystone,	West Butler township, Schuylkill county,	50,421 01	47.567.01	159¼	315		1	230	16	19	
Potts,	Locust Dale, Columbia county,	4 05	4 00		2				35		
Preston No. 2,	Girardville, Schuylkill county,		Idle.		18				21	1	
North Ashland,	Conyngham township, Columbia county,	71 685.09	67 626.17	129	332	1	1	1.075	21	39	1
Henry Clay,	Coal township, Northumberland county,	65 786 17	62.063 01	163¾	725	1	4	1,765	18	80	1
Tunnel,	Ashland, Schuylkill county,	62 674 15	59.127 03	142¾	262		4	300	26	37	
East,	Big Mine Run, Schuylkill county,	83 451 04	78 727 11	200	337		4	1,115	23	49	
North Franklin No. 1,	Trevorton, Northumberland county,		Idle		1				10		
Merriam,	Mt. Carmel twp., Northumberland county,	171,892.00	161 973 12	222¼	520	1	5	3,400	29	54	
Locust Run,	Conyngham township, Columbia county,		Idle.		11				16		
North Franklin No. 2,	Trevorton, Northumberland county,	118 563 07	111.852 05	196¼	299			2 450	10	43	1
Bear Valley,	Coal township, Northumberland county,	89 365 16	84.307.07	183½	252	2	2	1 845	22	37	1
Monitor,	Mt. Carmel twp., Northumberland county,	150.816 00	142 279 05	223¾	375	1	2	3.650	24	41	
Locust Spring,	Do. do.	124 938 00	117.866 05	221½	416	2	3	2 675	16	45	1
Preston No. 3,	Girardville, Schuylkill county,	93 867 16	88 554 11	235	312		1	425	22	43	1
Reliance,	Mt. Carmel twp., Northumberland county,	102 947 08	97 120.04	195	301		4	2 350	12	36	
Burnside,	Coal township, Northumberland county,	108,025.00	101 910.08	233¾	424		1	2 955	12	38	
Stirling,	Do. do.	19.412 12	18 313 16	102	260	1		650	12	24	
Short Mountain and Lykens Valley,	Wiconisco township, Dauphin county,	214 065 00	175.832 19	275.8	1.074	1	21	4 268	93	149	3
Williamstown,	Williams township, Dauphin county,	193.799.01	167 817 03	168	1.082	1	9	6 496	88	130	4
Cameron,	Coal township, Northumberland county,	193 931 03	176 461 03	228¾	902	3	9	7 604	40	89	
Luke Fidler,	Do. do.	115 728.06	104 443.06	165	495	2	4	2 648	30	54	
Hickory Swamp,	Do. do.	67 841.19	63 501.19	201¾	382		5	2 110	15	33	
Hickory Ridge,	Do. do.	43 251 17	39.301 17	215	187		3	1 275	14	21	
Pennsylvania,	Mt. Carmel twp., Northumberland county,	226 975.15	217,975.15	242	819	2	10	6 450	31	83	
Excelsior,	Coal township, Northumberland county,	171.109 00	161 423.17	246.4	393	1	1	4 242	24	43	
Enterprise,	Do. do.	110 726.00	103 094 00	185	423		2	2.370	31	33	2
Garfield,	Do. do.	8 317 06	7 937 16	95.1	95			218	8	11	
Lancaster,	Do. do.	7 623.07	7,413.07	96¼	55		2	242	3	13	
Nellson Shaft,	Shamokin bor., Northumberland county,		Sinking.	301	50			42	12	9	
Mount Carmel,	Mt. Carmel twp., Northumberland county,	124,582,04	117 310.04	210.7	370	1	3	4,136	21	40	1

Royal Oak,	Shamokin, Northumberland county,	1,135.00	1.071 03	80	15			40	1	3	
Morris Ridge,	Conyngham township, Columbia county,	97.634.05	94.934 05	241	257		4	2,451	8	21	
Bellmore,	Do. do.	40.298.17	39,402 12	165.7	241	3		502	15	25	
Logan,	Do. do.	217 611 03	201.356 03	213½	589	1	4	8 250	32	52	1
Centralia,	Do. do,	174 467.04	160 524.04	216 35	323	3	1	1,250	20	33	1
Continental,	Do. do.				18				19	1	
Big Mine Run,	North Butler township, Schuylkill county,	163,686.14	159,526 04	228	488		6	3,545	23	50	1
Hazle Dell,*	Conyngham township, Columbia county,			216.35	233			3,848	6	32	
Total,		3,714,519.11	3 463,265.18	192.9	14,414	31	122	93,752	982	1,637	19

*Coal prepared in Centralia breaker.

TABLE No. 3—Showing the number of each class of employés at each colliery in the Sixth Anthracite Mine District, during the year 1886.

Names of Collieries.	Location.	Number of Persons Employed Inside.							Number of Persons Employed Outside							Grand total—inside and outside.
		Inside foreman or mine boss and assistants.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers.	Total inside.	Outside foreman and assistants.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	All company men.	Superintendent, bookkeepers and clerks	Total outside.	
Peerless,		1	108	18	28	10	2	167	1	3	8	68	35	. .	115	282
Buck Ridge,		.	.	. . .	21	. .	.	21	1	2	20	.	15	. .	38	59
Mt. Carmel Shaft,		2	.		10			12	1	6	10		44	. .	61	73
Locust Gap,		1	80	20	67	15	11	194	1	4	9	78	36	. .	128	322
Keystone,		1	55	17	75	8	10	166	1	4	11	84	49	. .	149	315
Potts,		. .	. .	.	2	. .	. .	2			. .	.	.	. .	. .	2
Preston No. 2,					2			2	1	1	6		8	.	16	18
North Ashland,		1	62	10	80	12	9	174	1	10	18	102	57	. .	188	332
Henry Clay,		6	151	59	163	44	25	448	1	12	26	80	158	. . .	277	725
Tunnel,		1	40	6	55	15	11	128	1	5	18	65	45	. .	134	262
Bast,		1	85	4	62	14	13	179	1	6	16	78	57	. .	158	337
North Franklin No. 1,		. . .	.		.					.		.	1	. .	1	1
Merriam,		1	132	19	129	19	21	321	1	6	17	117	58	. .	199	520
Locust Run,		. . .			3			3	1		2		5	. .	8	11
North Franklin No. 2,		1	86	18	22	16	4	147	1	5	6	84	56	. .	152	299
Bear Valley,		1	73	3	33	9	5	124	1	6	13	62	46	. .	128	252
Monitor,		2	131	25	33	21	7	219	1	5	10	96	44	.	156	375
Locust Spring,		1	168	20	34	12	8	243	1	2	8	99	63	.	173	416
Reliance,		1	101	12	12	23	2	151	1	6	8	93	42	.	150	301
Preston No. 3,		1	42	3	101	17	7	171	1	5	11	68	56	.	141	312
Burnside,		1	149	31	53	5	6	245	1	6	13	100	59	. . .	179	424
Stirling,		1	74	13	50	10	7	155	1	5	8	55	36		105	260
Short Mountain and Lykens Valley,	Wiconisco twp., Dauphin co.,	7	211	133	172	54	29	606	2	25	72	213	150	6	468	1 074
Williamstown,	Williams twp., Dauphin co.,	8	296	114	177	71	24	693	2	33	56	150	142	6	389	1,082
Cameron,	Coal twp., Northumberland co.,	3	315	40	152	72	23	605	1	12	20	140	122	2	297	902
Luke Fidler,	Do. do.	3	119	39	124	27	10	322	1	9	14	87	61	1	173	495
Hickory Swamp,	Do. do.	1	135	40	43	17	5	241	1	4	6	75	55		141	382
Hickory Ridge,	Do. do.	1	48	19	37	8	3	116	1	3	8	28	30	1	71	187
Pennsylvania,	Mt. Carmel twp., Northumberland co.,	1	280	100	120	45	16	562	1	6	14	115	117	4	257	819
Excelsior,	Coal twp., Northumberland co.,	2	143	68	16	20	3	252	2	5	9	79	44	2	141	393
Enterprise,	Do. do.	1	75	101	91	9	5	282	1	6	15	53	61	5	141	423
Garfield,	Do. do.	1	35	8	11	4	2	61	1	2	5	10	14	2	34	95
Lancaster,	Do. do.	1	18	2	4	3		28	1	1	2	15	6	2	27	55

Nellson Shaft,	Shamokin, Northumberland co.,	1	5		15		21	1	3	6		17	2	29	50
Mt. Carmel,	Mt. Carmel twp., Northu'rld co.,	1	141	35	27	20	238	1	4	11	76	37	3	132	370
Royal Oak,	Shamokin, Northumberland co.,		9				9			1	5			6	15
Morris Ridge,	Conyngham twp., Columbia co.,	1	79	24	46	5	158	1	3	4	64	24	3	99	257
Bellmore,	Do.	2	52	21	35	7	128	1	3	10	63	33	3	113	241
Logan,	Do.	2	180	33	80	25	330	1	12	28	142	70	6	259	580
Centralia,	Do.	1	40	12	40	9	102	1	10	16	125	65	4	221	323
Continental,	Do.	1			1		2		2	6		8		16	18
Big Mine Run,	N. Butler twp., Schuylkill co.,	3	144	39	61	18	284	1	6	10	125	55	2	199	483
Hazle Dell,	Conyngham twp., Columbia co.,	1	90	35	59	13	211		4	4		14		22	233
Total,		66	3,952	1,141	2,346	680	335	8,523	41	252	555	2,894	2,095	54	5,891	14,414

TABLE No. 4—List of fatal accidents occurring in and about the mines of the Sixth Anthracite Mine District, for the year ended December 31, 1886.

Date of accident.	NAME OF PERSON	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 4	Christian Lisko, .	Miner, ...	53	1	3	Monitor, ...	Locust Gap, Northumberl'd,	Fatally injured by a fall of coal; he died while being removed to his home.
26	John Makuly, . . .	Slate picker,	20	. .	. .	Pennsylvania, ...	Green Ridge, Northumberl'd,	Killed by being crushed in counter screen cog wheels in breaker.
26	James Curran, . .	Driver, ...	19	.	. .	Bear Valley, ...	Bear Valley, Northumberl'd,	Died from injuries received on December 17, 1885, by being kicked by a mule.
Feb. 6	Patrick Murphy, .	Miner, ...	25	. .	. .	Cameron, ...	Shamokin, Nurthumberl'd, .	Killed by a fall of top rock.
14	Daniel Miller, . . .	Laborer, . . .	22	. .	. .	Bellmore, ...	Conyngham twp., Columbia,	Died from injuries received on the 12th, at bottom of slope.
23	James Flynn, . . .	Miner, ...	41	1	. .	Mt. Carmel Shaft, ...	Mt. Carmel twp., North'd,	Fatally injured by a fall of coal; he died in about three hours after accident.
Mch. 4	Daniel H. Shaffer,	Outside lab'r, . .	1	2	Cameron, ...	Shamokin, Northumberl'd, .	Killed by his head being crushed between the bumpers of dirt cars while attempting to uncouple them while in motion.
22	John Cannon, . . .	Miner, ...	50	1	7	Locust Spring, ...	Locust Gap, Northumberl'd,	Died from injuries received on the 10th by a fall of coal.
April 7	William Roberts, .	Miner, . .	54	1	3	Excelsior, ...	Coal twp , Northumberland,	Killed by a fall of top slate. (clod)
14	Isaac F. Kluck, . .	Repairman, .	32	1	3	Bellmore, ...	Conyngham twp., Columbia,	Killed by a rush of coal and dirt while cleaning up gangway.
19	Joseph Zoborney. .	Miner, ...	49	1	3	Luke Fidler.	Coal twp., Northumberland,	Suffocated by foul air.
May 11	Owen Monaghen,	Repairman, .	30	1	1	Centralia, ...	Centralia, Columbia, .	Killed by falling down third lift of No. 2 slope.
June 10	John M. Thomas, .	Miner, ...	30	1	3	Stirling, ...	Coal twp., Northumberland,	Fatally injured by a premature blast; he died in about nine hours after accident.
29	Daniel Lucas, . . .	Timberman, .	51	1	7	Pennsylvania, ...	Green Ridge, Northumberl'd,	Died from injuries received on the 19th, by being bumped outside between empty mine cars.
July 4	Patrick Cavanagh,	Boss loader, .	35	. .	5	Locust Gap, ...	Locust Gap, Northumberl'd,	Killed by being crushed between top of mine cars and sump timber, and knocked back down to bottom of sump.
9	Edward Jones, . .	Driver, . . .	21	.	. .	Mt. Carmel, ...	Mt. Carmel twp., North'd, .	Killed by being struck on head by flying coal from blast.
15	Patrick Welsh, . .	Miner.	26	1	1	Logan, ...	Conyngham twp., Columbia,	Killed by a fall of top coal.
Aug. 5	David Hutchison, .	Laborer, . . .	17	. .	. .	Luke Fidler, ...	Coal twp., Northumberland,	Killed by a fall of top rock.

	13	Patrick Langon,	Miner,	48		8	North Ashland,	Conyngham twp., Columbia,	Died from injuries received on August 7, by being struck by coal from blast.
	18	James Andrew,	Laborer,	18			Hazle Dell Strippings,	Do. do.	Killed by being kicked by a mule in stable.
	26	Daniel Woland,	Miner,	35	1	1	Short Mount'n and Lykens Val.,	Wiconisco twp., Dauphin,	Died from injuries received on the 23d, by an explosion of carburetted hydrogen gas.
Sept.	3	James Bradbury,	Driver,	20			Merriam,	Mt. Carmel twp., North'd,	Died from injuries received on August 25, by being crushed between top of loaded mine cars and gangway collar.
Oct.	9	Eltz Kramer,	Loader,	21			Bear Valley,	Bear Valley, Northumberl'd,	Died from injuries received on the 7th, by being crushed between empty mine car and gangway timber.
	19	Charles Bickel,	Chute starter,	40	1		Bellmore,	Conyngham twp., Columbia,	Killed while starting battery.
Nov.	3	Henry Kuntz,	Miner,	35	1	3	Locust Spring,	Locust Gap, Northumberl'd,	Killed by a fall of roof, (sulphur ball.)
	5	G. Harvey Paul,	Miner,	32	1	5	Cameron,	Shamokin, Northumberland,	Died from injuries received on the 4th by a fall of coal.
	8	James Ryan,	Top of slope man.	18			Big Mountain,	Coal twp., Northumberland,	Killed by falling down slope.
	15	Charles A. Sellers,	Laborer,	32	1	1	Buck Ridge,	Do. do.	Killed by a prop falling on him.
Dec.	1	Benjamin F. Hain,	Laborer,	25			Williamstown,	Williams twp., Dauphin,	Died from injuri s received same day by a fall of coal at face of No. 4 slope, west counter gangway.
	8	John Alexander,	Top of slope man.				Hazle Dell,	Conynghhm twp., Columbia,	Died from injuries received same day by being struck on side of head by tail-chain which was kicked by a mule he was driving at the time.

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the Sixth Anthracite Mine District, for the year ended December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
Jan. 11	Robert Newton,	Miner,				Williamstown,	Dauphin,	Leg broken by being caught between a prop and mine car.
18	John Welsh,	Miner,				Enterprise,	Northumberland,	Leg and collar-bone broken by a fall of coal.
18	Patrick Donavan,	Laborer,				Enterprise,	Northumberland,	Cut on head and face by same fall of coal.
22	James Larkin,	Miner,				Pennsylvania,	Northumberland,	Injured about body by a fall of top coal.
22	Wm. C. Fromme,	Miner,				Williamstown,	Dauphin,	Leg broken by a fall of top slate.
22	August Wagner,	Miner,				Williamstown,	Dauphin,	Head and back bruised by a fall of top slate.
22	Daniel Evert.	Carpenter,				Reliance,	Northumberland,	Injured internally; he fell while carrying a plank.
21	Christian Keller,	Miner,				Merriam,	Northumberland,	Slightly burned on hands and face by carburetted hydrogen gas.
Feb. 18	Frank Carmelskei,	Laborer,				Reliance,	Northumberland,	Small bone in leg broken by a fall of top rock.
20	G. S. Bolich,	Miner,				Pennsylvania,	Northumberland,	Hurt by a fall of coal at face of his breast.
24	John Beaty,	Miner,				Cameron,	Northumberland,	Slightly injured by falling down breast.
27	James Sweeney,	Miner,				Bast,	Schuylkill,	Arm broken and shoulder bruised; he fell out of chute down on gangway.
Mch. 1	Henry Tresgar,	Driver,				Pennsylvania,	Northumberland,	Leg hurt by a loaded mine car running over it.
3	Patrick O'Brien,	Repairman,				Merriam,	Northumberland,	Slightly burned on hands and face by carburetted hydrogen gas.
3	Frank Lisk,	Miner,				Hickory Swamp,	Northumberland,	Hurt by a fall of coal.
5	William Brown,	Miner,				Mt. Carmel shaft.	Northumberland,	Two ribs broken by being caught between latch of mine car and a prop.
8	George Brain,	Door-tender,				Bast,	Schuylkill,	Collar-bone broken by falling off a mule.
10	George Fessler,	Driver,				Burnside,	Northumberland,	Rib broke; while lifting a prop out of a mine car he slipped and fell against a bolt.
10	Patrick Lavelle,	Bottom man,				Logan,	Columbia,	Injured by being struck by fragments of broken mine car; the hitching chain broke while the loaded cars were being hoisted up slope; the cars running back down slope.
10	Joshua Young,	Miner,				Big Mine Run,	Schuylkill,	Injured about head and face by an explosion of powder.
18	James McAndrew,	Miner,				Locust Spring,	Northumberland,	Injured about the body by a fall of coal.
20	John Morntuskel,	Laborer,				Cameron,	Northumberland,	Arm broken by falling down breaker steps.

Mch	24	John Brenchuskei,	Laborer,					Morris Ridge,	Columbia,	Leg broken by a fall of slate on low side of gangway.
	26	David Thomas,	Laborer,					Big Mountain,	Northumberland,	Hip fractured; he was helping to stand a prop and it fell on him.
	27	George Haerter,	Car oiler,					Mt. Carmel,	Northumberland,	Left arm broken by being struck by coal flying from car at bottom of slope; the rope pulled out of socket, the loaded car running back down to bottom of slope.
	29	Charles Shoener,	Miner,					Reliance,	Northumberland,	Foot crushed by the mine car being pushed over end of track at face of breast, catching his foot against the coal.
	30	John Conner,	Miner,					Hickory Swamp,	Northumberland,	Hurt by a fall of coal.
	31	John James,	Fire boss,					Tunnel,	Schuylkill,	Leg broken by a fall of rock.
April	2	Chas. Dumbroskei,	Miner,					Luke Fidler,	Northumberland,	Leg injured by being squeezed between mine cars.
	3	Dennis Deane,	Platform man					Locust Spring,	Northumberland,	Ribs broken; he fell while pulling a lump of coal on platform.
	7	William James,	Car oiler,					Short Mount'n and Lykens Val.,	Dauphin,	Crushed about the body and stomach by being caught between a bottom bull pump rod and a prop.
	25	John Kowalskei,	Miner,					Lancaster,	Northumberland,	Leg broken by a fall of slate.
	29	John W. Orandorf,	Miner,					Short Mount'n and Lykens Val.,	Dauphin,	Hurt about the shoulders by a piece of slate bumping out on him.
	12	Safron Hileavage,	Laborer,					Excelsior,	Northumberland,	Leg broken by a fall of slate; amputated afterwards.
May	3	John Zimmerman,						Cameron,	Northumberland,	Ribs broken by being caught between mine car and top rock.
	7	Robert McLane,	Driver,					Lancaster,	Northumberland,	Leg broken by being caught between the end of a plank and end of mine car.
	11	Joseph Parden,	Laborer,					Bear Valley,	Northumberland,	Leg broken by a fall of coal.
	11	Howard Yordy,	Slate-picker,					Cameron,	Northun berland,	Crushed between pulley and belt.
	12	Andrew McEvay,	Platform man					Bast,	Schuylkill,	Arm broken and injured about the head by being struck with handle of windlass while pulling rock off platform.
	13	Augustus Jush,	Driver,					Morris Ridge,	Columbia,	Injured by being squeezed between mine cars.
	15	Herbert Strine,	Miner,					Monitor,	Northumberland,	Ribs broken; he fell into barney pit at bottom of slope.
	18	John Christoff,	Laborer,					Big Mine Run,	Schuylkill,	Back injured by a fall of slate.
	19	Seth Thomas,	Miner,					Morris Ridge,	Columbia,	Slightly hurt by a fall of top slate.
	22	William Marshall,	Laborer,					Mt. Carmel,	Northumberland,	Hurt outside at slope mouth while sitting under slope gate; balance box was lowered down on him.
	25	Joseph Young,	Miner,					Big Mine Run,	Schuylkill,	Leg broken by a fall of coal.
	21	Joseph Skoskei,	Miner,					Cameron,	Northumberland,	Hurt about body by a fall of roof slate.
June	1	John Weightman,	Driver,					Mt. Carmel,	Northumberland,	Toe mashed by being crushed between two mine cars.
	1	Paul Martin,	Miner,					Cameron,	Northumberland,	Injured about body by being crushed between coal.
	7	James Noone,	Miner,					Luke Fidler,	Northumberland,	Arm injured by a premature blast.
	8	James McAuliff,	Miner,					Short Mount'n and Lykens Val.,	Dauphin,	Slightly burned on face and hands by carburetted hydrogen gas.
	8	George John,	Laborer,					Mt. Carmel shaft,	Northumberland,	Leg broken while loading an iron shaft on big railroad car outside.

TABLE No. 5—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—County.	Nature and Cause of Accident.
June 10	Joseph Klinger,	Miner,				Pennsylvania,	Northumberland,	Hurt about body by a fall of rock.
14	Charles Bechtel,	Laborer,				Merriam,	Northumberland,	Face, neck, arms, and hands burned by an explosion of powder.
19	Samuel Morgan,	Miner,				Short Mount'n and Lykens Val.,	Dauphin,	Burned on face, neck, arms, and hands by an explosion of carburetted hydrogen gas.
19	John Blief,	Laborer,				Merriam,	Northumberland,	Hip dislocated and finger mashed by a fall of coal.
30	Joseph Mahdl,	Miner,				Pennsylvania,	Northumberland,	Seriously injured by a fall of rock.
July 2	Theodore Gender,	Laborer,				Big Mine Run,	Schuylkill,	Leg broken by a loaded car jumping the track.
7	George Edmunds,	Laborer,				Short Mount'n and Lykens Val.,	Dauphin,	Shoulder dislocated by being crushed between mine cars.
8	Jonas Christorson,	Miner,				Peerless,	Northumberland,	Ribs broken, head and face cut and bruised by a fall of top slate.
12	Michael Gavin,	Loader,				Preston No. 3,	Schuylkill,	Thigh-bone fractured; while loading a car he fell into it and rock fell on him.
13	G. Tomiscovitch,	Laborer,				Williamstown,	Dauphin,	Thigh-bone fractured; while helping to load a boiler on car it fell on him.
13	M. Klaninisky,	Miner,				Williamstown,	Dauphin,	Injured about head and body by a fall of coal.
15	John Smoke,	Miner,				Hickory Swamp,	Northumberland,	Seriously injured by falling down man-way.
15	Henry Kelser,	Driver,				Hickory Swamp,	Northumberland,	Leg hurt by being run over by empty mine car.
19	David Mowry,	Car oiler and spragger.				Big Mountain,	Northumberland,	Leg mashed; he slipped and fell under cars while attempting to take a sprag out of car while in motion.
21	Joseph Milka.	Miner,				Hickory Ridge,	Northumberland,	Injured about the head by a fall of coal.
22	George Seller,	Miner,				Cameron,	Northumberland,	Burned by the explosion of a cartridge of powder.
23	William Hill,	D. B. driver,				Pennsylvania,	Northumberland,	Leg broken.
26	Andrew Cully,	Miner,				Big Mine Run,	Schuylkill,	Leg broken by a fall of coal.
29	Nicholas Hyer,	Fire boss,				Lake Fidler,	Northumberland,	Slightly burned on hands, face, and neck by carburetted hydrogen gas.
Aug. 3	John Buehta,	Miner,				Pennsylvania,	Northumberland,	Seriously burned by carburetted hydrogen gas.
6	Anthony Brovic,	Driver,				Big Mountain,	Northumberland,	Body injured by being squeezed between mine car and gangway.
13	Edgar George,	Slate picker,				Short Mount'n and Lykens Val.,	Dauphin,	Arm broken; he fell while running across chutes in breaker.

Aug. 16	Nicholas Betz,	Laborer,	Locust Gap,	Northumberland,	Injured internally by lifting a door of mine car.
20	Preston Fisher,	Laborer,	Williamstown,	Dauphin,	Leg broken by being struck by flying coal from blast.
23	Thos. Wilkinson,	Laborer,	Keystone,	Schuylkill,	Foot injured by a pick being run through it while breaking coal.
23	Jacob Quinton,	Miner,	Locust Gap,	Northumberland,	Finger blown off while igniting dynamite.
23	Simon Snyder,	Miner,	Reliance,	Northumberland,	Foot crushed, head and body cut by a fall of coal
23	William McCabe,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Face and hands slightly burned by carburetted hydrogen gas.
23	Joshua Evans,	Fire boss,	Short Mount'n and Lykens Val.,	Dauphin,	Face, neck, arms, and hands burned by carburetted hydrogen gas.
23	Charles Brinton,	Loader and driver.	Short Mount'n and Lykens Val.,	Dauphin,	Face, neck, arms, and hands burned by carburetted hydrogen gas.
23	John Cook,	Assistant inside boss.	Short Mount'n and Lykens Val.,	Dauphin,	Severely burned on arms and hands by carburetted hydrogen gas.
23	James G. Bateman,	Inside foreman.	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face, neck, hands, and leg by carburetted hydrogen gas.
23	Joseph Rusbatch,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face and hands by carburetted hydrogen gas.
23	Ernest Shindler,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face and hands by carburetted hydrogen gas.
23	Charles Gaffney,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on hands, face, and side by carburetted hydrogen gas.
23	Daniel Buffington,	Laborer,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on body, legs, face, and hands by carburetted hydrogen gas.
23	Caradoc Edwards,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face and hands by carburetted hydrogen gas.
23	Anthony Fisher,	Laborer,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face and hands by carburetted hydrogen gas.
23	Charles M. Hoover,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Burned on face, neck, breast, and hands by carburetted hydrogen gas.
24	Daniel Haley, Jr.,	Laborer,	Short Mount'n and Lykens Val.,	Dauphin,	Skull fractured by being caught between mine cars and top rock; the cars jumped the track.
24	John Hughes,	Miner,	Logan,	Columbia,	Seriously injured about body by a fall of top coal.
23	Harry Straub,	Driver,	Williamstown,	Dauphin,	Small bone of arm fractured.
26	William Hillhouse,	Laborer,	Pennsylvania,	Northumberland,	Injured about the body by being caught between gangway leg and loaded mine car.
26	Joseph Potasoff,	Laborer,	Pennsylvania,	Northumberland,	Injured in the same manner at same place.
26	Joseph Roseneskei,	Miner,	Hickory Swamp,	Northumberland,	Hurt about body by a fall of coal.
27	David Williams,	Driver,	Bast,	Schuylkill,	Knee dislocated by being caught between tail-chain and mine car.
Sept. 2	David Powell,	Miner,	Big Mine Run,	Schuylkill,	Arm broken, cut about the head and arm and otherwise injured by a fall of top slate,
24	John Cooney,	Laborer,	Morris Ridge,	Columbia,	Injured by a fall of top slate.
25	William Snyder,	Miner,	Cameron,	Northumberland,	Severely burned by the explosion of a keg of powder.
27	John Young,	Driver,	Merriam,	Northumberland,	Hands and face burned by carburetted hydrogen gas.
Oct. 4	Jona. Shoffstall,	Miner,	Short Mount'n and Lykens Val.,	Dauphin,	Head injured by a fall of rock.

TABLE NO. 5—*Continued.*

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery,	Location—County.	Nature and Cause of Accident.
Oct. 12	Joseph Rostik,	Miner,				Short Mount'n and Lykens Val.,	Dauphin,	Burned on face and hands by an explosion of a keg of powder.
13	Henry Hughes.	Laborer,				Logan,	Columbia,	Injured about the body by a fall of top slate.
22	Paul Deskey,	Laborer,				Hickory Ridge,	Northumberland,	Leg crushed by a rush of rock.
28	Thomas Maloney,	Laborer.				Cameron,	Northumberland,	Leg broken in rock chute in breaker.
30	Aaron Shadle,	Door-tender,				Williamstown,	Dauphin,	Leg broken by being struck by loose rail.
Nov. 3	James Meehan,	Miner,				Locust Gap,	Northumberland,	Head cut, back and legs bruised by a fall of coal.
5	Henry Kraw,	Switch tender slope bot'm.				Hazle Dell,	Columbia,	Leg injured by being caught or struck with slope wire rope.
15	Jacob Lenker,	Miner,				Williamstown,	Dauphin,	Burned on face and hands by igniting a cartridge of powder with his lamp.
15	Daniel Doolin,	Driver,				Tunnel colliery,	Schuylkill,	Body bruised; he fell under trip of mine cars.
19	Peter McAndrew,	Miner,				Locust Spring,	Northumberland,	Back bruised and right leg broken above knee by a fall of top rock, (roll.)
20	Peter Ward,	Loader,				Tunnel,	Schuylkill,	Arm broken by being struck by door of mine car.
22	John Callis,	Driver,				Pennsylvania,	Northumberland,	Foot injured by being run over by mine car.
24	Anth'y Cummings,	Loader,				Tunnel.	Schuylkill,	Arm broken and body bruised under mine car.
24	Enoch Waldren,	Miner,				Luke Fidler,	Northumberland,	Leg broken and otherwise injured about the body by a fall of top slate while timbering on turnout at bottom of No. 1 slope.
26	Charles Rusbeskel,	Miner,				Henry Clay,	Northumberland,	Arm broken while timbering mainway; the bottom slipped away from under his feet and he fell down mainway.
Dec. 20	Andrew Snyder,	Dirt bank driver.				Monitor,	Nortnumberland,	Arm broken by being caught between loaded and empty dirt dumpers while passing at center casting.
17	Thomas O'Brien,	Miner,				North Ashland,	Columbia,	Injured about head, face, and body by falling down his mainway.
22	Joseph Mattis,	Miner,				Hickory Ridge,	Northumberland,	Rib broken and body bruised by a fall of top slate, (roll.)
24	F. Deitrick,	Driver,				Bear Valley,	Northumberland,	Arm broken, he fell under mine car.

Seventh Anthracite Coal District.

Synopsis of the report of Inspector Samuel Gay, for the year ending December 31, 1886. Compiled by the Bureau:

Number of mines in the district,	43
Number of mines operated from which statistics were gathered,	39
Average working time, in days, for thirty-nine mines,	176
Persons employed inside of mines,	5,021
Persons employed outside of mines,	3,054
Total number of persons employed,	8,075
Number of fatal accidents,	21
Number of non-fatal accidents,	43
Persons employed per fatal accident,	384
Persons employed per non-fatal accident,	187
Number of tons of coal mined,	2,476,013
Number of tons of coal shipped,	2,335,862
Number of tons increased production over year 1885,	181,310
Number of tons of coal mined per fatal accident,	117,905
Number of tons of coal mined per non-fatal accident,	57,349
Number of kegs of powder used in mines,	47,144
Number of steam boilers in use,	609
Number of horses and mules in service,	948
Number of widows,	8
Number of orphans,	20

There was a decrease of two in the number of fatal accidents, and a decrease of thirty-six in number of non-fatal accidents.

SEVENTH ANTHRACITE DISTRICT.

POTTSVILLE, *February 22, 1887.*

Honorable J. SIMPSON AFRICA, *Secretary of Internal Affairs:*

SIR: I have the honor of submitting herewith my twelfth annual report as Inspector of coal mines in accordance with an act of Assembly, approved June the 30, 1885.

The report contains the usual tables, showing the number of accidents, fatal and non-fatal, arising from various causes, during the year 1886; also the amount of coal produced during the same period, and such other data and information deemed to be of importance.

We are pleased to state that the number of fatal accidents is ten per cent. less than those of the preceding year, and the number of non-fatal casualties shows a decrease of fifty per cent.

Within the same period the output of coal was increased eight per cent. There was also an increase in the number of persons employed of six per cent.

The casualties causing the death of twenty-one persons resulted from the following causes, viz: One man slipped on the ice and fell down a slope, four were fatally injured by blasting material, two were suffocated by a rush of coal thrown out by an outburst of gas, five were crushed to death by falls of roof and coal, two by the breaking of a hitching plate, to which the dirt dumper on a dirt plane was attached to the hoisting rope, two lost their lives by a rush of water, one boy fatally injured by machinery in a breaker, one man crushed to death at the bottom of a slope by a mine car, two were fatally injured by the bursting of a steam boiler, another fell off a trestle and died from the effects of his injuries.

Out of the twenty-one persons who lost their lives, four were victims of their own recklessness. In fact, their deaths was more entitled to the name of suicide, than that of accidental.

SAMUEL GAY,

Inspector of Mines, Seventh District.

TABLE No. 1—Fatal Accidents.—Comparative statement of fatal casualties that occurred during the years 1885 and 1886.

CAUSE OF ACCIDENTS.	YEARS.	
	1885.	1886.
Explosions of fire-damp,	2	
Falls of coal and roof,	13	5
Crushed by mine cars,	4	
By machinery on the surface,	1	1
By machinery under ground,		
Falling down shafts,		
Falling down slopes,	1	1
Breaking of ropes or chains,		2
Explosions of blasting material,	2	4
Miscellaneous causes,	4	8
Total number of fatal accidents,	23	21

TABLE No. 2.—Number of fatal accidents and amount of coal produced per life lost by the different companies and individual firms for the year 1886.

OPERATORS.	Number of fatal accidents.	Amount of coal produced per life lost.
Philadelphia and Reading Coal and Iron Company,	9	141,299
Lehigh Coal and Navigation Company,	3	168,398
Alliance Coal Company,	1	159,083
Individual firms,	8	69,871
Total,	21	

TABLE No. 3—Non-fatal Accidents.—Comparative statement of non-fatal casualties occurring during the years 1885 and 1886.

CAUSE OF ACCIDENTS.	YEARS.	
	1885.	1886.
Explosions of fire-damp,	17	3
Falls of coal and roof,	21	16
By mine cars,	14	4
By machinery on the surface,	1	
By machinery under ground,		
Falling down shafts,		
Falling down slopes,	1	1
Breaking of ropes and chains,	1	
Explosions of blasting material,	9	6
Miscellaneous,	15	13
Totals,	79	43

TABLE No. 4.—Table showing the total amount of coal shipped to market, together with the estimated amount used or sold at the collieries.

	Years.	
	1885.	1886.
Amount of coal shipped,	2,164,815	2,335,862
Amount of coal sold or used at collieries,	129,888	141,517
Total number of tons produced,	2,294,703	2,476,013
Increase,	181	310

TABLE No. 5.—Statement showing a general comparison between the years 1885 and 1886, respectively.

	Years.	
	1885.	1886.
Number of persons employed,	7,625	8,075
Number of tons of coal produced per life lost,	99,769.07	117,905
Ratio of employés, per life lost,	331 3/25	384
Number of tons produced per each person seriously injured,	29,059 2/25	57,349
Tons of coal mined per each employé,	301 1/10	305
Ratio of employés per serious personal injury,	91 17/25	187

TABLE No. 6.—Showing number of deaths and ratios of the same, per every thousand employés of the different companies and individual firms for the year 1886.

	Number of employés.	Number of deaths.	Number of deaths per thousand employés
Philadelphia and Reading Coal and Iron Company,	4,575	9	1 967/1000
Lehigh Coal and Navigation,	1,467	3	2 066/1000
Alliance Coal Company,	540	1	5 351/1000
Individual firms,	1,493	8	1 851/1000
Totals,	8,075	21	2 734/1000

Notwithstanding the sad and deplorable loss of life shown in the foregoing tables, it is an undeniable fact that the occupation of those employed in and about the anthracite mines, is much less hazardous than it was at the time the first State mining law was enacted for the protection of the employés engaged in mining.

It is probably true that the enactment of the law did not bring about the sudden and sweeping effect in preventing the loss of life and limb as had been anticipated, nevertheless, if we take records of the former years and compare them with the last, it will be seen that the death rate per thousand is from fifty to seventy per cent. less, and

that the output of coal has increased at about the same ratio since the passage of the first act in 1870.

Under the provisions of an act passed June 30, 1885, the court appointed for the Seventh district to act as the examining board Mr. Thomas Doyle, mine superintendent, and Mr. H. S. Crooks, a miner, in conjunction with the mine inspector, as provided for by the act. Thirty-six persons received certificates of service and seventeen received certificates of competency.

The following are the names of those receiving certificates in the Seventh or Pottsville district:

Names of Persons that Received Certificates of Service under the Act of June 30, 1885, Article 8.

Names.	*Nationality.*	*Age.*
Thomas P. Thomas,	Welsh,	58
John F. Williams,	Welsh,	45
George Keith,	German,	47
David Jones,	Welsh,	38
Thomas Oliver,	English,	46
James McDonald,	American,	50
Michael Flanagan,	Scotch,	38
Thomas Elthringham,	English,	45
Thomas Brockson,	English,	62
Michael Devlin,	American,	44
William Godfrey,	English,	48
William Taylon,	English,	42
John Atkinson,	American,	39
Michael Hibbert,	German,	51
Arche McDonald,	Irish,	50
John Welsh,	Irish,	48
Martin Kelley,	American,	36
Thomas Davis,	Welsh,	43
Daniel Fitzpatrick,	Irish,	48
John Loreny,	American,	33
John Kopp,	American,	44
Harry Neidhommer,	American,	42
Patrick Birenz,	Irish,	41
Matthew Beddow,	Welsh,	46
Lowes Lorenz,	German,	60
Daniel Thompson,	English,	45
Silas Thompson,	English,	50
Peter E. Jones,	Welsh,	40
William D. Thomas,	Welsh,	44
John McGuire,	English,	40
David J. Lewis,	American,	44
Thomas Doyle,	American,	47
Morgan Price,	American,	44
James Kealey,	Irish,	48
John Elthringham,	English,	68

Names of Persons who Received Certificates of Competency under the Act of June 30, 1886, Article 8.

Names.	*Nationality.*	*Age.*
Richard Edwards,	Welsh,	33
Harry Alsop,	English,	55
John Curral,	Irish,	36
Ruber Price,	English,	40
Edwin Thompson,	English,	36
John H. Reilly,	American,	33
Michael Conway,	American,	32
Patrick McDonald,	American,	34
Daniel Griffith,	Welsh,	45
Thomas Campbell,	American,	35
James Mauchlen,	Scotch,	29
John Purcell,	American,	35
Thomas Devlen,	American,	31
Martin Pursell,	American,	29
Andrew Crawford,	Scotch,	36
Harry S. Crooks,	English,	58
Albert Thompson,	English,	24

FATAL ACCIDENTS.

ACCIDENTS NOS. 5 AND 6.—We regret to have to report again one of those uncontrollable and distressing accidents resulting from an outburst of fire damp at Phœnix Park, No. 3 colliery, by which two unfortunate men lost their lives.

The men were employed as gangway laborers, and were working under the direction of a miner who had the contract for driving the gangway.

Sketch No. 1 represents the section of the gangway and the schutes and cross headings where the outburst occurred. On the night of the accident five miners and two fan boys were all that were engaged in the colliery.

By reason of the frequent outbursts the day shift had been discontinued some time previous to the accident, the work in gangway A. and in schutes and cross heading, B and C was then confined to nights work, and the workmen restricted to the use of locked safety lamps.

On the night of the accident the workmen had been engaged in the usual way without any indications of an outburst. About twelve o'clock, fortunately, the miner had an occasion to go back to point D, where his supply box was located. He had no sooner reached the box, when he heard the report of the outburst. Thinking it had occurred at the gangway face, he called to his laborers to run, at the same time making his way toward them, but to his surprise when he got as far as shute B he found the miners who were working in B on the gangway nearly exhausted, the openings charged with gas, and the volume rapidly increasing, driving the two back to point E, according to the testimony of the men. It was from fifteen to twenty minutes before the force of the outburst of gas had expended itself sufficiently to allow them to make an attempt to rescue the two laborers. However, when they reached point B, to their dismay, they found that the gangway had not only been blocked with gas, but that it had also been filled to the roof with coal thrown from the face of the schute by the outburst.

Still hoping their fellow workmen were yet alive at the gangway face, they commenced to make an opening over the top of the loose coal, but had not gotten far with the opening when the lifeless bodies of the unfortunate laborers were found. They had been buried alive by the rush of coal forced from the face, by the pent up pressure of the gas. It is quite evident that as soon as the men heard the report, caused by the discharge of the gas, they made a rush out of the gangway, but unfortunately were caught by the mass of material thrown from the face.

Notwithstanding the opening B was but five feet wide by four feet high, over twenty tons of coal had been displaced from the solid face. It was very fortunate that the men had strictly complied with the

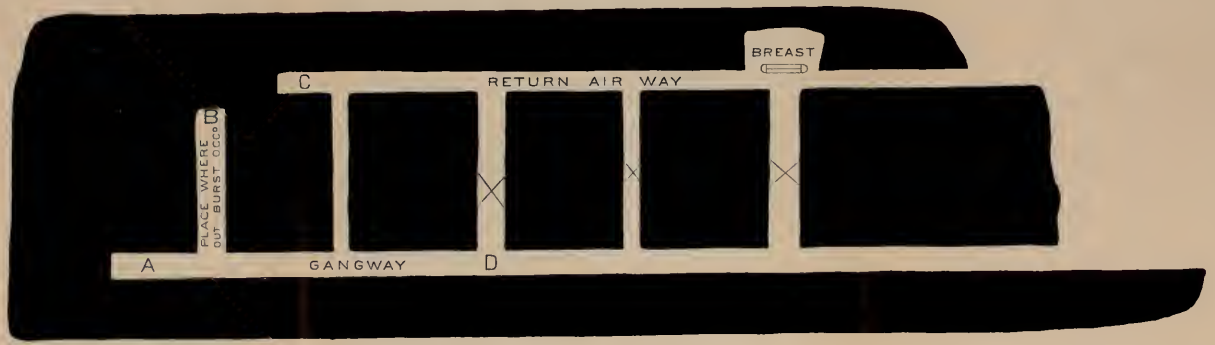
7th District
Samuel Gay
Inspector

Sketch No. 1

Showing

Scene of Accidents No.s 5 & 6

Refered to on Pages 9 & 10



7th District
Samuel Gay
Inspector

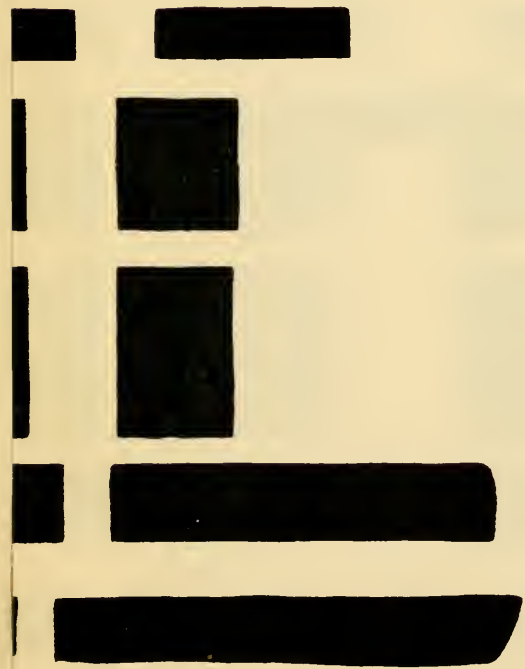
rules of the colliery by using none but safety lamps. Had they used an open light, it is more than probable that instead of having to record the two, as it is now, we should have had the painful duty of recording the whole of the number engaged in the mine that night.

Accidents Nos. 9 and 10.—These two unfortunate victims, of their own recklessness, lost their lives in a small colliery near Minersville, known as the Wolf Creek Diamond, operated by John Lawrence, and employing, under ground, six persons. The mine is opened by a water-level drift. Sketch No. 2 represents the section of the mine where the accident occurred; letter A represents the gangway now in operation, and letter B indicates an old gangway worked out and abandoned a number of years previous to the present operation. The distance between A and B is about fifty feet, hence the coal that was being worked was that in the pillar between the two gangways, A and B. Up to the time of the accident, gangway A had been extended a distance of about fourteen hundred yards, and the coal worked out between the two levels, hence what little water had accumulated in the old gangway had been tapped and drawn off as the lower workings advanced without any mishap, until the time these two men, Russell and Kelley, lost their lives. These men were fully aware of the situation of the old gangway, and the amount of water it contained in vertical height, to which their fellow workmen and Mr. Lawrence testified at the coroner's inquisition.

John Lawrence, the operator, testified that two weeks prior to the accident he had examined the old gangway and found a small fall of rubbish by which the water in the gangway was dammed back to the height of three feet. These facts he stated to Russell and Kelley, ordering them to keep a bore hole ahead in the face of the breast after reaching a given distance. Two days before the accident, Lawrence sent Edward Wigmore, a miner, who was working in the next breast to them, to warn them to keep the bore hole ahead. When Wigmore delivered the message, Russell replied: "Do you think I am a d—d fool, and not knowing what I am doing?" Harry Bush, another miner, working alongside of them, in the inside breast, testified that he had told Russell to keep the bore hole ahead on the evening before, and again in the morning of the day of the accident, and Russell told him it was all right.

Notwithstanding these warnings, the two unfortunate victims of their own folly, continued to work on in the usual manner, without taking the precautionary measures they had frequently been requested to take for their own protection against a sudden rush of water, which they well knew was sure to follow, if they broke through into the old gangway B, with a large opening. Nevertheless, it was evident, beyond a doubt, from the indications shown by the opening, that they had continued undermining the vein until there remained only about six inches between them and the water, when the face of coal evidently

suddenly gave way, making an opening into the old gangway about seven feet wide and five feet high, through which the volume of water rushed, carrying its victims and loose coal down the breast before it, until they reached the battery above the gangway. Here Russell's mangled body was found, and Kelley's was found some distance from the place of accident, where he had died.



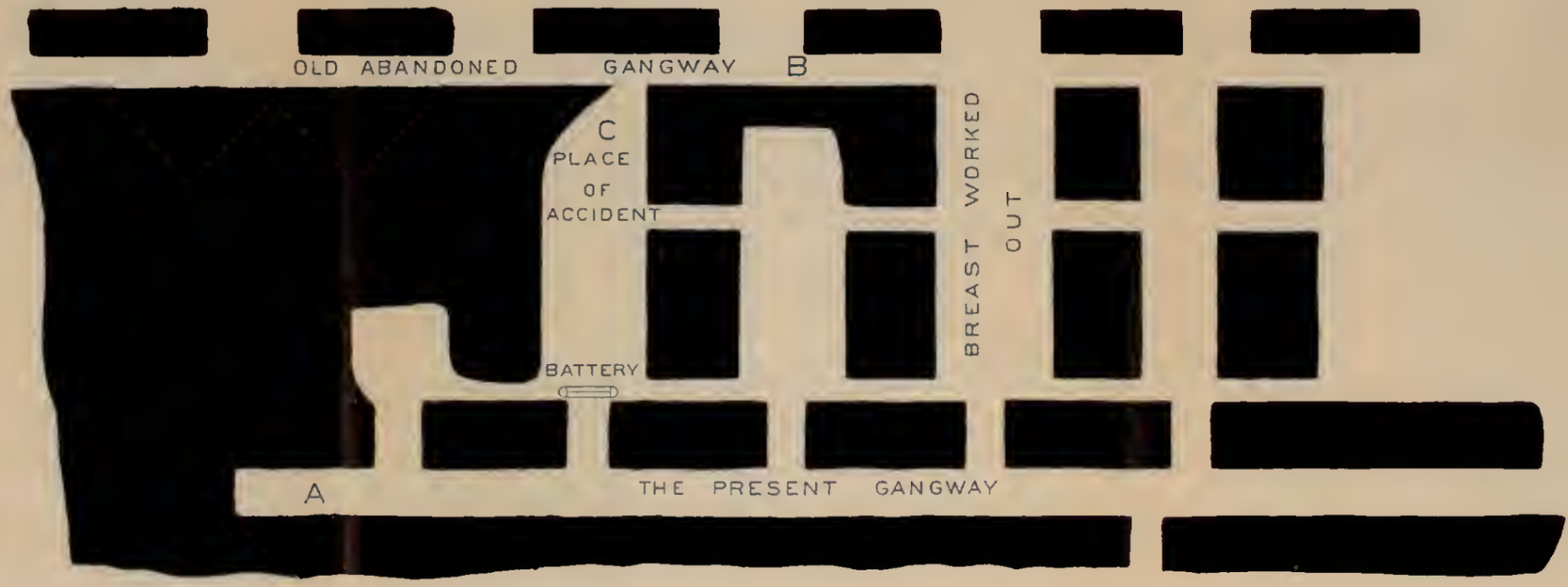
7th District

Sketch No. 1

Showing

Scene of Accidents no 9 & 10

Refered to on pages 7 & 8.



7th District

TABLE No. 1.—Showing location of collieries in the Seventh Anthracite Mine District.

NAME OF COLLIERY.	Name of Operator.	Location—County.	Name of Superintendent.	Post-Office Address.
Brookside,	Philadelphia and Reading Coal and Iron Co.,	Tower City, Schuylkill county,	John Veith,	Pottsville, Schuylkill co.
Valmia,	Do. do. do.	Do. do. do.	Do. do.	Pottsville, Schuylkill co.
East Franklin,	Do. do. do.	Tremont City, Do. do.	Do. do.	Pottsville, Schuylkill co.
Middle Creek,	Do. do. do.	Middle Creek, Do. do.	Do. do.	Pottsville, Schuylkill co.
Otto,	Do. do. do.	Branch Dale, Do. do.	Do. do.	Pottsville, Schuylkill co.
Phenix Park No. 3,	Do. do. do.	Phenix Park, Do. do.	Do. do.	Pottsville, Schuylkill co.
Beachwood,	Do. do. do.	Mount Loffe, Do. do.	Do. do.	Pottsville, Schuylkill co.
Thomaston,	Do. do. do.	Thomaston, Do. do.	Do. do.	Pottsville, Schuylkill co.
Richardson,	Do. do. do.	Glencarbon, Do. do.	Do. do.	Pottsville, Schuylkill co.
Glendower,	Do. do. do.	Taylorsville, Do. do.	Do. do.	Pottsville, Schuylkill co.
Taylorville,	Do. do. do.	Taylorsville, Do. do.	Do. do.	Pottsville, Schuylkill co.
Eagle,	Do. do. do.	Saint Clair, Do. do.	Do. do.	Pottsville, Schuylkill co.
Eagle Hill,	Do. do. do.	Eagle Hill, Do. do.	Do. do.	Pottsville, Schuylkill co.
Pine Forest, (pumping,)	Do. do. do.	St. Clair, Do. do.	Do. do.	Pottsville, Schuylkill co.
Wadesville, do.	Do. do. do.	St. Clair, Do. do.	Do. do.	Pottsville, Schuylkill co.
Pottsville shafts, (pumping,)	Do. do. do.	St. Clair, Do. do.	Do. do.	Pottsville, Schuylkill co.
Swatara, (pumping,)	Do. do. do.	Swatara, Do. do.	Do. do.	Pottsville, Schuylkill co.
Forrestville, (pumping,)	Do. do. do.	Forrestville, Do. do.	Do. do.	Pottsville, Schuylkill co.
Lower Raush Creek, (pumping,)	Do. do. do.	Lower Raush Creek, do.	Do. do.	Pottsville, Schuylkill co.
Phenix Park No. 2, (pumping,)	Do. do. do.	Pheuix Park, do.	Do. do.	Pottsville, Schuylkill co.
Lehigh No. 8,	Lehigh Coal and Navigation Company,	Coal Dale, Carbon county,	W. D. Zehner,	Lansford, Carbon county.
Lehigh No. 12,	Do. do. do.	Do. do. do.	Do. do.	Lansford, Carbon county.
Lehigh No. 10,	Do. do. do.	Do. do. do.	Do. do.	Lansford, Carbon county.
Lehigh No. 11,	Do. do. do.	Do. do. do.	Do. do.	Lansford, Carbon county.
Kaska, William,	Alliance Coal Company,	Middleport, Schuylkill county,	Wm. McQuail,	New Philadelphia.
Palmer vein,	Do. do.	New Philadelphia,	Do. do.	New Philadelphia.
New Boston,	Mill Creek Coal Company,	New Boston,	J. D. Jones,	Mahanoy City,
Herline,	J. K. Sigfreid & Co.,	Minersville,	J. K. Sigfreid,	Pottsville.
Ellsworth,	John R. Davis,	New Castle,	John R. Davis.	Broad Mountain.
Crystol,	Brady & Souders,	Do. do.	John Ethringham,	Broad Mountain.
Reppler,	Quinn & Wimms,	Do. do.	John F. Quinn,	St. Clair.
Vulcan,	Wm. L. Williams,	Wadesville,	Wm. L. Williams,	Pottsville.
Monitor,	Dennings & Bros.,	Do.	Wm. Dennings,	St. Clair.
St. Clair,	Thos. Wrenn & Co.,	St. Clair,	Thos. Wrenn,	Pottsville.
Chamberlin,	Thompson, Heatt & Co.,	Do.	Daniel Thompson,	St. Clair.
Newtown,	Diggles & Co.,	Newtown,	H. S. Brooks,	N. Swatara.
Keckline,	P. O. Connor,	Thomaston,	P. O. Connor,	Heckscherville.
Pine Dale,	Slemmer & Co.,	Middleport,	Mark Bowman,	Middleport.
Milford,	Docker & Co.,	Do.	Do. do.	Middleport.
Diamond,	John Lawrence,	Minersville,	John Lawrence,	Minersville.
Greenwood No. 13,	Swartz & Oliver,	Tamaqua,	Thomas Oliver,	Tamaqua.
East Lehigh,	Mitchell & Shepp,	Do.	Jos. Mitchell,	Tamaqua.
Greenwood,	Gideon Wheatstone,	Do.	Gideon Wheatstone,	Tamaqua.

TABLE No. 2.—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employés, number of persons killed and injured, number of kegs of powder used, &c., in the Seventh Anthracite Mining District, for the year ending December 31, 1886.

NAMES OF COLLIERIES.	Location. All in Schuylkill county.	Total production in tons of coal.	Total shipment in tons of coal.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number steam boilers.	Number horses and mules
Middle Creek shaft,	Middle Creek,		73,077	219	389	1	. . .	1,625	20	33
Phenix Park No. 3,	Phenix Park,		47,073	196	201	3	. . .	1,286	14	31
Thomaston,	Thomaston,		107,515	203	448	1	. . .	4,490	28	66
Otto,	Branchdale,		69,301	150	352	. .	. . .	1,245	36	40
Eagle,	St. Clair,		40,319	245	106	2	. . .	556	6	12
Lower Raush Creek,	Tremont,		. . . . .	. . . .	17	. .	. . .	. . . . .	20	4
East Franklin,	Tremont,		7,191	87	38	. .	. . .	70	18	10
Glendower,	Taylorsville,		77,800	240	300	1	. . .	2,335	33	36
Kalmia,	Tower City,		74,302	241	318	. .	. . .	3,550	8	32
Beachwood,	Mount Loffe,		60,442	246	361	. .	. . .	1,300	16	24
Lincoln,	Keffers,		125,617	243	359	. .	. . .	2,170	24	54
Wadesville,	Wadesville,		. . . . .	. . . .	18	. .	. . .	. . . . .	27	3
Pottsville shafts,	St. Clair,		. . . . .	. . . .	10	. .	. . .	. . . . .	21	4
Richardson,	Glen Carbon,		99,048	221	339	1	. . .	2,725	29	33
Westbrookside,	Tower City,		274,317	252	685	1	. . .	3,200	40	122
Taylorsville,	Taylorsville,		. . . . .	. . . .	. . . .	. .	. . .	. . . . .	13	. . .
Eagle Hill,	Eagle Hill,		215,176	260	634	. .	. . .	4,075	26	47
Lehigh No. 8,	Coal Dale,		135,896	256	482	1	. . .	180	37	58
Lehigh No. 10,	Coal Dale,		164,760	246	400	. .	. . .	1,740	36	56
Lehigh No. 11,	Coal Dale,		112,053	251	352	1	. . .	1,260	14	58
Lehigh No. 12,	Coal Dale,		92,506	240	233	1	. . .	2,220	13	27
Kaska William,	Middleport,		159,083	280	539	1	. . .	2,996	16	41
Palmer vein,	New Philadelphia,		425	1	12	. .	. . .	. . . . .	18	6
New Lincoln,	Keffers,		154,565	248	372	1	. . .	3,150	20	28
New Boston,	Mahanoy City,		120,560	206	454	. .	. . .	3,567	44	57
Herbine,	Minersville,		32,506	220	158	1	. . .	1,200	2	11
Chamberlen,	St. Clair,		20,046	213	107	1	. . .	596	4	3
Lehigh, No. 3,	Tamaqua,		21,102	197	59	. .	. . .	211	2	8

Pine Dale,	Middleport,	11,148	125	69	2	...	390	6	5
Ellsworth,	New Castle,	8,862	249	29	...	...	171	2	5
Hooker,	St. Clair,	8,650	264	42	...	...	112	3	6
Crystal,	New Castle,	5,344	177	34	...	...	105	2	9
New Town,	New Town,	3,900	150	34	...	...	120	2	2
East Lehigh,	Tamaqua,	4,683	163	27	...	...	162	1	4
Schuylkill Valley,	New Castle,	1,070	62	15	...	...	30	1	2
Milford,	Middleport,	481	20	26	...	...	50	3	2
Wolf Creek Diamond,	Minersville,	2,490	302	10	2	...	72	2	2
Vulcan,	Wadesville,	4,954	200	45	...	...	250	2	4
Keckline,	Thomaston,	3,980	195	15	...	...	240	1	4
Amount of coal shipped by railroad,	...	2,335,862	...	...	...	...	...	...	...
Amount estimated used and sold at the mines,	...	140,151	...	...	...	...	...	...	...
Total,	...	2,476,013	6,878	8,075	21	43	47,144	609	948

TABLE No. 3.—Showing the number of each class of employés at each colliery in the Seventh Anthracite Mine District, during the year 1886.

NAMES OF COLLIERIES.	Location—Schuylkill County.	NUMBER OF PERSONS EMPLOYED INSIDE.							NUMBER OF PERSONS EMPLOYED OUTSIDE.							Grand totals—inside and outside.
		Inside foremen or mine bosses.	Miners.	Miners' laborers.	All company men.	Drivers and runners.	Door-boys and helpers	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate-pickers.	All company men.	Superintendent, bookkeepers, and clerks.	Total outside.	
Middle Creek shaft,		1	94	27	97	17	17	253	1	5	12	65	53	. .	136	389
Phenix Park No. 3,		1	72	7	23	20	4	127	1	4	7	36	26	. .	74	201
Thomaston,		1	188	25	80	31	10	335	1	6	11	86	49	. .	153	448
Otto,		2	111	17	51	11	4	196	1	5	15	84	51	. .	156	352
Eagle,		1	28	2	20	5	2	58	1	3	2	25	17	. .	48	106
Lower Raush Creek,		. .	. .	2	. .	2	. . .	4	1	. .	10	. . . .	4	. .	15	17
East Franklin,		1	5	5	5	1	.	17	1	1	9	. . .	10	. .	21	38
Glendower,		2	96	14	38	28	10	180	1	4	14	54	47	.	120	300
Kalmia,		2	110	44	39	13	3	211	1	4	4	65	33	. .	107	318
Beachwood,		1	136	40	19	10	61	267	1	5	9	48	31	.	94	361
Lincoln,		1	98	40	52	18	16	215	1	4	18	81	40	. .	144	359
Wadesville,		.	. .	. .	.	. .	. .	. .	. .	. . .	. .	.	. . .	. .	. . .	18
Pottsville shaft,		. .	. .	. .	. .	.	. .	. .	.	5	. .	. .	. .	. .	.	10
Richardson,		1	142	10	33	15	4	205	1	5	14	75	39	. .	134	339
Brook Side,		4	195	129	66	40	13	447	2	3	29	109	85	. .	238	685
Eagle Hill,		3	220	39	101	20	21	404	1	8	23	125	73	. .	230	634
Lehigh No. 8,		1	27	7	207	18	10	270	1	9	19	73	110		212	482
Lehigh No. 10,		1	62	2	119	19	15	218	1	5	14	96	68	. .	184	402
Lehigh No. 11,		2	48	35	96	16	6	201	1	7	10	88	45	.	151	352
Lehigh No. 12,		1	50	3	90	13	7	164	1	3	9	32	24	.	69	223
Kaska, William,	Middleport,	2	186	. . .	108	18	15	329	1	8		131	70	.	210	539
Palmer vein,	New Philadelphia,			. . .	. .	.		11	1				. .	.	1	12
New Lincoln,	Keffer's,	1	118	. . . .	76	10	3	208	1	13	.	121	29	.	164	372
New Boston,	Mahanoy City,	1	212	. . . .	27	28	8	278	1	17	. . .	100	58	.	176	454
Herbine,	Minersville,	1	69	. . . .	29	5	1	106	1	4	. . .	28	19	.	52	158
Chamberlin,	St. Clair,	1	46	. . . .	29	2	.	78	1	5	. . .	20	4	. .	29	107
Lehigh No. 13,	Tamaqua,	1	16	. . . .	10	3		30	1	1	. . .	19	8	. .	29	59
Pine Dale,	Middleport,	1	26	. . . .	4	3	3	37	1	2	. .	17	12	. .	32	69
Ellsworth,	New Castle,	1	10	. . . .	3	3	1	18	1	1	.	7	2	.	11	29
Hooker,	St. Clair,	1	21	. . . .	4	3		29	1	1	. .	7	4		13	42
Crystal,	New Castle,	1	10	. . . .	4	2		17	1	1	.	9	6		17	34
New Town,	New Town,	1	10	. . . .	4	1		16		1	. . .	14	3	. .	18	34
East Lehigh,	Tamaqua,	. .	9	. . . .	2	1	. .	12		1	. . .	11	2	. .	12	27

| | | |

TABLE No. 4—List of fatal accidents occurring in and about the mines of the Seventh Anthracite Mine District, for the year ended December 31, 1886.

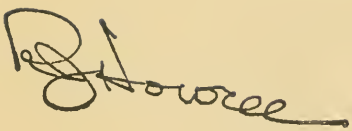
Date of accident.	Number of accident.	NAME OF PERSON.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	Location—Schuylkill County.	Nature and Cause of Accident.
Jan. 8	1	John Ford, ...	Engineer, . .	. .	. .	. .	Thomaston, ...	Thomaston, ...	Fell down pump slope. Supposed to have slipped on the ice.
21	2	George Hendler, .	Inside laborer,	18	. .	. .	Middle Creek shaft, ...	Middle Creek, ...	Died from injuries received resulting from a blast.
Feb. 16	3	George Beadle, . .	Miner, ...	34	yes	4	Kaska William, ...	Big Vein, ...	Killed by a piece of coal flying from a shot.
April 7	4	Edward Parnell, . .	Slate picker, .	14	. .	. .	Phenix Park No. 3, ...	Phenix Park, ...	Died from injuries he received by being caught in the bevel cog gearing of the centre screens.
8	5	Thomas Doyle, . .	Inside laborer,	23	. .	. .	Phenix Park No. 3, ...	Phenix Park.	Smothered. See page.
8	6	Edward Canfield, .	. . . . .	29	. .	. .	Phenix Park No. 3, ...	Phenix Park, ...	Smothered.
May 17	7	Hugh McGee, . . .	Outside lab'r,	56	yes	. .	Lehigh No. 8, ...	Coal Dale, ...	Killed on the surface by being struck by a stone thrown from a blast.
June 26	8	John Smith, ...	Miner, ...	45	. .	. .	Chamberlin, ...	St. Clair, ...	Killed in a breast by a fall of roof.
30	9	Absalom Russell, .	Miner, ...	48	yes	6	Wolf Creek Diamond, ...	Minersville, ...	Killed. See page.
30	10	John Kelley, ...	Miner, ...	45	. .	. .	Wolf Creek Diamond, ...	Minersville, ...	Killed. See page.
July 19	11	William King, . . .	Bottom man, .	23	. .	. .	New Lincoln, ...	Keffer's Station, ...	Killed at the bottom of the slope by being struck by an empty mine car that was pushed over the head of the slope.
Jan.		August Myers, . . .	Driver, ...	16	. .	. .	Lehigh No. 11, ...	Coal Dale, ...	Died from injuries received by falling off a trestling.
Aug. 1	12	William Sherman, .	Outside lab'r,	20	. .	. .	Eagle colliery, ...	St. Clair, ...	Killed at the foot of a dirt plane under the breaker, resulting from the breaking of the hitching plate underneath the car. It being the means by which the car was secured to the hoisting rope.
16	13	John Flanagan, . .	. . . . .	22	. .	. .	Eagle colliery, ...	St. Clair, ...	
19	14	Winfield Miers, . .	Miner, ...	32	. .	. .	Richardson, ...	Heckscherville, ...	Killed by a fall of coal in a breast whilst engaged in skipping a pillar.
20	15	Benjamin Hoffey, .	Laborer, . . .	45	yes	. .	Lehigh No. 12, ...	Coal Dale, ...	Killed by a fall of roof in a breast.
Oct. 8	16	Philip Mohan, . . .	Miner, ...	32	yes	. .	Glendower, ...	Taylorsville, ...	Killed by an explosion of dynamite whilst in the act of driving back into a drill hole four sticks of dynamite with the head of a steel jumper (or drill.)

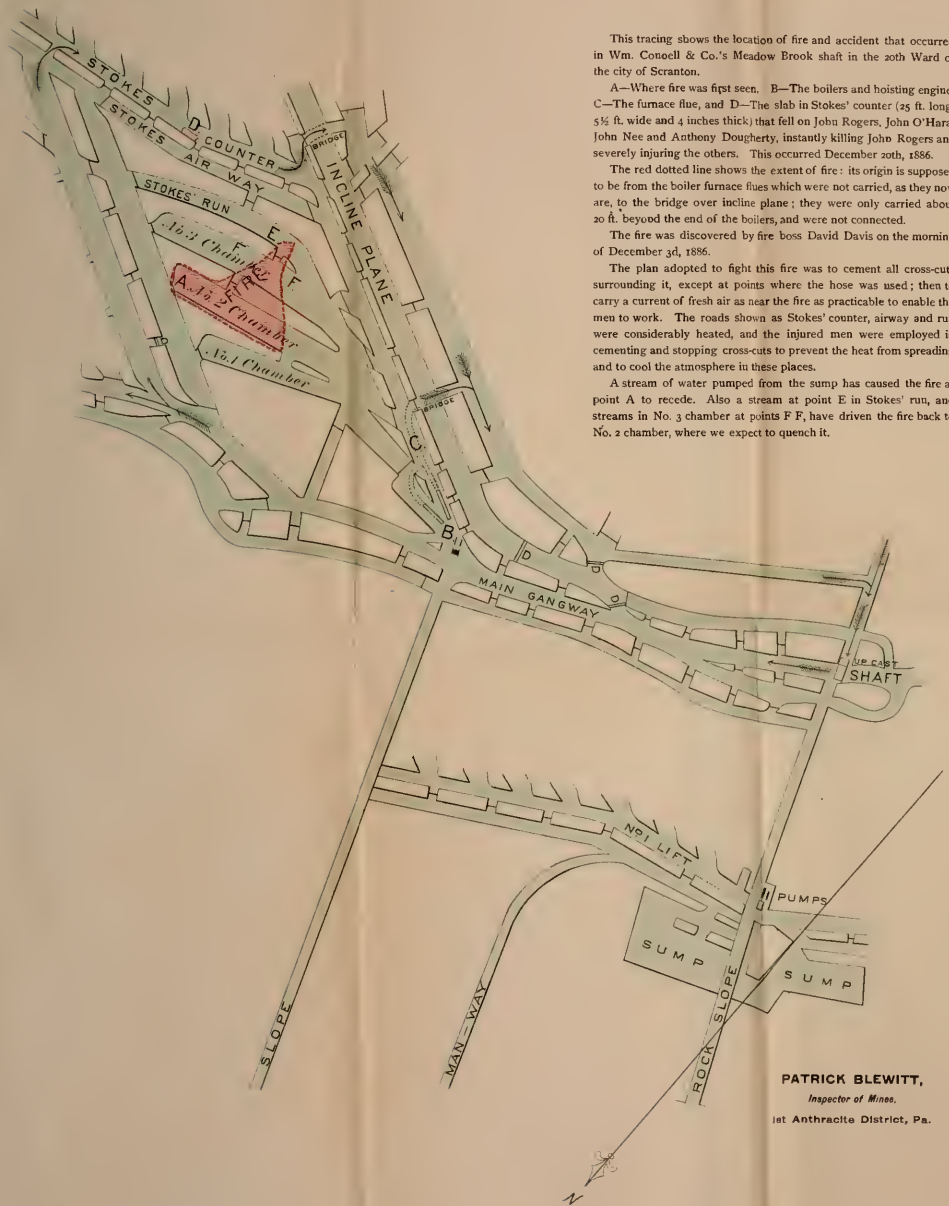
29	17	Isaac Morgan, . . .	Miner, ...	42	yes	8	West Brookside, ...	Tower City, ...	Killed by a fall of roof and coal at the face of a breast in which he was working.
Dec. 9	18	Richard Pursell, . .	Miner, ...	32	yes	2	Herbine, ...	Minersville, ...	Killed by a fall of coal.
11	19	John Ott, ...	Outside Foreman, ...	28	yes	. .	Pine Dale, ...	Middleport, ...	Killed by the explosion of a steam boiler.
11	20	John Kepe, ...	Fireman, . . .	21	. .	. .	Pine Dale, ...	Middleport, ...	Killed by the explosion of a steam boiler.

TABLE No. 5—List of non-fatal accidents occurring in and about the mines of the Seventh Anthracite Mine District, for the year ended December 31, 1886.

Date of accident.	NAME OF PERSON.	Occupation.	Age.	Married.	Number of children.	Name of Colliery.	Location—Schuylkill County.	Nature and Cause of Accident.
Jan. 5	Daniel Messmer,	Driver,				West Brookside,	Tower City,	Wrist broken; fell off a mule.
16	John S Ferbe,	Miner,				West Brookside,	Tower City,	Leg broken by a fall of slate.
19	John Rogers,	Miner,				Lehigh No. 10,	Coal Dale,	Skull fractured by a piece of coal flying from a blast.
26	August Myers,	Laborer,				Lehigh No. 11,	Coal Dale,	Head and arm injured; fell off a trestling.
27	P. Pendergrost,	Miner,				Glendower,	Taylorsville,	Leg and arm broken by a fall of slate.
29	George Reiner,	Laborer,				Brookside,	Tower City,	Leg broken; struck by a piece of slate.
Feb. 2	Wm. Davis,	Miner,				Lehigh No. 12,	Coal Dale,	Head and back cut; premature explosion of a blast.
2	John Frisller,	Slate picker,				Lehigh No. 12,	Coal Dale,	Neck cut; fell in a dirt bin.
3	Dennis Murry,	Miner,				Kaska William,	Middleport,	Slightly burned by an explosion of gas.
3	T. Murphey,	Miner,				Kaska William,	Middleport,	Slightly burned by an explosion of gas.
20	L. Depplnger,	Miner,				Old Lincoln,	Larbery,	Hand and foot cut by a fall of coal.
Mar. 6	Thomas Ponting,	Miner,				Fosters' Tunnel,	Coal Dale,	Leg broken; caught by piece of coal.
15	Jacob Clouser,	Laborer,				Old Lincoln,	Larbery,	Leg broken; bumped by mine cars.
18	George Fisbet,	Miner,				Lehigh No. 12,	Coal Dale,	Arm blown off and body injured; he exploded a shot of dynamite that he held in his hand.
22	Ed. McGrath,	Miner,				Richardson,	Glenn Carbon,	Ribs fractured by a fall of slate.
23	Cyrus Donnley,	Miner,				East Franklin,	Upper Rausb Creek,	Wrist broken; caught between car and a collar.
30	Wm. Davis,	Driver,				Richardson,	Glenn Carbon,	Arm broke; kicked by a mule.
April 2	Chas. Heaa,	Slate picker,				Beachwood,	Mount Loffe,	Leg broken; caught by a belt in breaker.
2	John Rogers,	Miner,				Lehigh No. 10,	Coal Dale,	Back and hips injured by a rush of coal.
28	John Harner,	Repairsman,				Thomaston,	Thomaston,	Collar bone broken; jammed by a mule.
May 7	Phillip Gould,	Laborer,				Lehigh No. 10,	Coal Dale,	Rib fractured; struck by a crow-bar.
14	Benj. Raudenbush,	Miner,				New Boston,	New Boston,	Leg broken; fell down the slope.
June 8	James Brenan,	Miner,				Crystal,	New Castle,	Leg broken; struck by a piece of coal.
12	Ed. Tasker,	Fan boy,				Lehigh No. 8,	Coal Dale,	Arm broke; fell off a mule.
14	John Dougerty,	Miner,				Middle Creek,	Middle Creek,	Leg broke by a fall of coal.
	John Higgens,	Laborer,				Lehigh No. 11,	Coal Dale,	Face and eyes badly burned by the explosion of a blast.
July 1	Daniel Stone,	Miner,				Kaska William,	Middleport,	Back seriously injured by a gangway collar falling on him.
12	Martin Quinn,	Miner,				Beachwood,	Mount Loffe,	Leg broke by a fall of coal.

21	James M. Doyle,	Laborer,		Lehigh No. 8,	Coal Dale,		Arms and neck burned by gas.
23	Lewis Phell,	Miner,		Lehigh No. 11,	Coal Dale,		Back hurt and arm broke by a fall of coal.
29	Jacob Rump,	Miner,		New Lincoln,	Keffer,		Arm broken and otherwise injured by a fall of coal.
Aug. 19	Anthony Frank,	Miner,		Richardson,	Glenn Carbon,		Leg broken by a piece of coal falling on it.
Sept. 2	James Welling,	Miner,		Lehigh No. 10,	Coal Dale,		Hands and face badly burned by exploding a keg of powder; his lamp falling off his hat into the open keg.
4	Daniel Gem,	Miner,		Lehigh No. 12,	Coal Dale,		Severely cut about the head by a fall of coal.
11	P. McGonugal,	Miner,		Kaska William,	Middleport,		Spine hurt; fell down a manway.
13	Wm. I. Sweeney,	Miner,		Lehigh No. 10,	Coal Dale,		Leg broke by a fall of coal in a breast.
24	Chas. Handwork,	Miner,		Eagle Hill,	Eagle Hill,		Jaw bone and leg broken by a fall of coal.
28	John Mollck,	Miner,		Brookside,	Tower City,		Small bone of leg broken by a piece of coal flying from a shot.





This tracing shows the location of fire and accident that occurred in Wm. Connell & Co.'s Meadow Brook shaft in the 20th Ward of the city of Scranton.

A—Where fire was first seen. B—The boilers and hoisting engine. C—The furnace flue, and D—The slab in Stokes' counter (25 ft. long, 5½ ft. wide and 4 inches thick) that fell on John Rogers, John O'Hara, John Nee and Anthony Dougherty, instantly killing John Rogers and severely injuring the others. This occurred December 20th, 1886.

The red dotted line shows the extent of fire: its origin is supposed to be from the boiler furnace flues which were not carried, as they now are, to the bridge over incline plane; they were only carried about 20 ft. beyond the end of the boilers, and were not connected.

The fire was discovered by fire boss David Davis on the morning of December 3d, 1886.

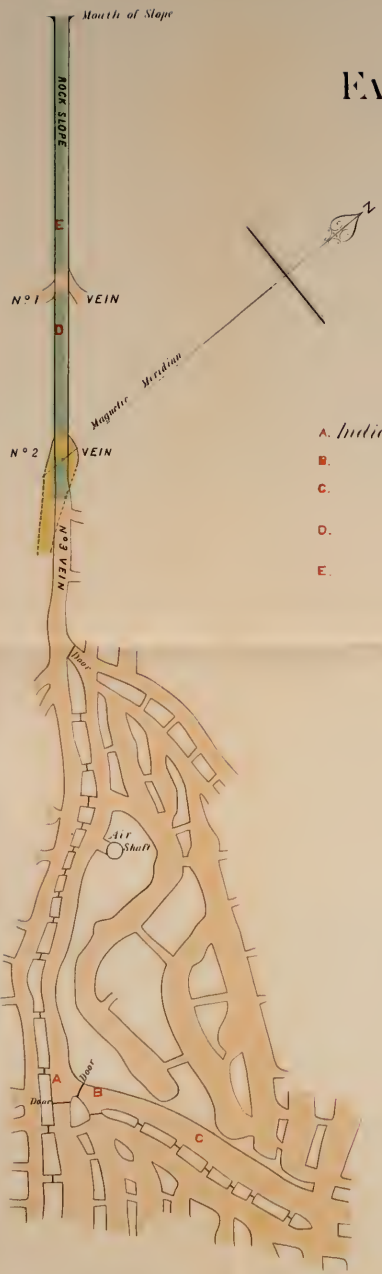
The plan adopted to fight this fire was to cement all cross-cuts surrounding it, except at points where the hose was used; then to carry a current of fresh air as near the fire as practicable to enable the men to work. The roads shown as Stokes' counter, airway and run were considerably heated, and the injured men were employed in cementing and stopping cross-cuts to prevent the heat from spreading and to cool the atmosphere in these places.

A stream of water pumped from the sump has caused the fire at point A to recede. Also a stream at point E in Stokes' run, and streams in No. 3 chamber at points F F, have driven the fire back to No. 2 chamber, where we expect to quench it.

PATRICK BLEWITT,
Inspector of Mines.
1st Anthracite District, Pa.

Fairlawn Mines

No 3 Vein.

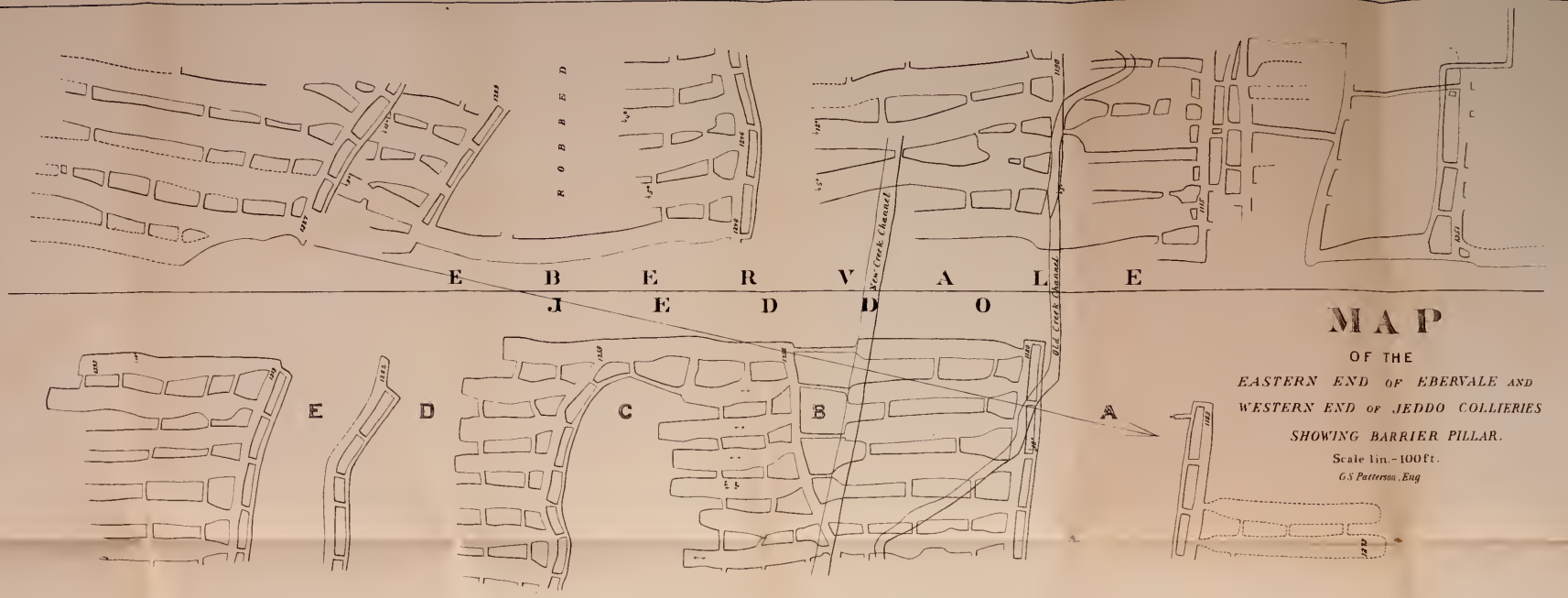


A. *Indicates point where Kerrigan was found*
B. *Others were*
C. *Pierce was*
D. *Men should not have passed until ordered by Fire Boss.*
E. *Slope caved*

Scale 100 Ft to 1 Inch

Joseph P. Phillips, M.E.

Patrick Blewitt,
Inspector of Mines
1st. Anthracite District, Penna

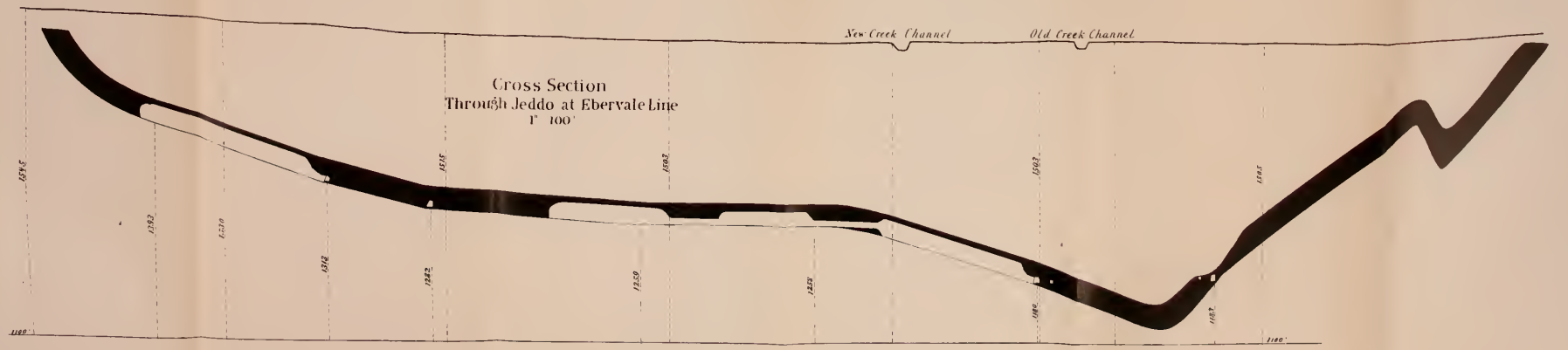
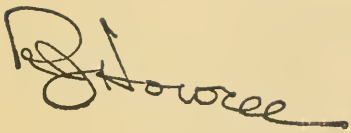


MAP

OF THE

EASTERN END OF EBERVALE AND WESTERN END OF JEDDO COLLIERIES

SHOWING BARRIER PILLAR.

Scale 1in.=100ft.

G.S Patterson, Eng